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## Original Department.

### The Anti-Malarial Zone.

By A. Comstock, M. D., Silver Cliff, Col.

PROF. HIRSCH in his exhaustive work upon the geography of intermittent fever, has defined the widespread area subject to the malarial infection, but does not illustrate the regions where the reverse is true. We know that there are certain well established topic foci, within the limits of which, are found the favorite nidus of disease—foci where the poison germ is perennial, and whence is evolved certain epidemics, guided by fixed condition. Of such, an example is the "cholera asiatica," whose nidus is in the valley, and delta of the Ganges, or the 'plague,' which rests amid the marsh deposits, upon the eastern coast of the Mediterranean, between the Nile and Bosphorus, or the "yellow fever," whose habitat is the Islands of the Carribean Sea, and the east drainage of central America. Fortunately, the abode of the above mentioned maladies is of limited expanse, and till extended by commerce, they were not the dreaded terror, that modern intercourse has invested them with. The malaria, to which this article alludes, has many fields of perpetuation and very extended tracts in which it pursues its victims. Its zone in Europe covers nearly the entire area of modern traffic, between the Black sea and the British Isles, the south shore of the Baltic, the bottom lands which are adjacent to Zuyder Zee and east coast of the German sea, together with a very considerable portion of Spain. In our own country, this taint modifies nearly all febrile attacks, or assumes a pronounced periodic form, over the entire maize bearing valleys, east of longitude 97°, as also the bottom lands, formed by the west drainage from the mountains to the Pacific ocean, involving, therefore, with its miserable contingencies, about four-fifths of the entire population as distributed at the date of our last census report.

Malaria—(*Malus*, bad, and *aer*, air) or Miasm *Μιασμα* (from *Μιαινω*, to taint, or pollute, or defile) has, like the more malignant forms of disease above referred to, centers whence it develops and extends at certain seasons, but unlike them, is not communicable, by personal contact, or interchange of vestments.

Prof. Niemeyer in his Practice, alluding to this "contagium vivum," and "miasma vivum," comments as follows: "There is, however, an important difference between the miasma vivum, which is the specific cause of intermittent fever, and the contagium vivum, by which the acute exanthemata and other infectious diseases spread. The latter reproduces itself, in organisms infected with it. Malaria on the other hand is not reproduced in the body, and whilst a short residence in a malarious district is enough to give intermittent fever, one may share the same ward, with a large number of intermittent patients in a hospital, at a distance from such a place, without danger. Hence in distinction to the 'contagious' diseases, malarial fever is termed 'miasmatic contagious,' or 'purely miasmatic.' Whilst, however, this malady has such an idiopathy, it also exhibits the more embarrassing trait, of lying in wait to form a pool or combination with other misfortunes, and we not infrequently observe its effects during a season of dysentery or pneumonia, and further, a widespread epidemic of intermittent fever, has preceded, accompanied and succeeded the onset of Asiatic cholera in districts were the latter is endemic. Furthermore, malaria does not, like the exanthemata, tend to protect its victims, nor guarantee them against the future, but, upon the receipt of the poison, the system has a continued predisposition to a renewed attack so long as the patient remains within the malarial zone. One takes a cold, or becomes exhausted by over-exercise, mental or physical, or dissipates a trifle, by which rest and digestion is impaired, and the enemy asserts itself until compelled to surrender, by better hygienic surroundings, or proper treatment. The high temperature, which involves certain internal organs and nerve centers, during the first, or chill, stage, and the consuming fever, which succeeds it, so disorders the vital processes, that, the patient becoming anæmic, or dropsical, or with impaired capillary circulation, looses his native *static force* and ambition, dreading the recurring season, with diminished courage each ensuing year. Sir Thomas Watson, in his "Lectures Upon the Principles and Practice of Physic," is authority for the following: "In places where malaria is more constantly and abundantly present, the race of inhabitants deteriorates, their stature is small, their complexion sallow and yellowish, they are prematurely old and wrinkled; even the children early acquire an aged aspect, and the spirits and intellects of those who dwell in these unhealthy spots are low and feeble, and partake of the degeneration of their bodily qualities." No one has succeeded in defining, or isolating, the ultimate causation of malaria, to the satisfaction of the profession. The electric light, the microscope, the chemist's art have been directed to the air and water of miasmatic regions during the past century in vain. Prof. Morsen, of Brussels, in 1843, Dr. Dixon, of Charleston, S. C., in 1854, and Dr. Salisbury, of Cleveland, in 1862, each in turn, announced the results of his exhaustive experiments, and for a time each was convinced that the exciting cause had been isolated, and the pestilence-bearing spore identified. More recently the dual efforts of Klebs and Crudelli recognized the "malariæ bacillus," but Sternberg fails to find any logical causation from these growths to account for the disease, and others think the same phenomena are discernible in non-malarial districts. There are, however, certain conditions, clearly defined, and founded upon observations, of patient, impartial and eminent authors, which are recognized as associate causes.

Dr. Samuel Busey, Washington, D. C., in an article upon "Malaria," etc., printed in the Bulletin of the National Board of Health for April 8, 1882, has stated the proposition so clearly that I quote as follows: "Numerous well-known facts and circumstances have established a belief that a poison is generated from decomposing vegetable matter, under a combined influence of heat and moisture, which, when introduced into the system, either through the respiratory organs or alimentary tract, will produce certain forms of disease, which vary in intensity and type, according to the virulence of the poison, temperature, amount absorbed, or individual susceptibility.

"The development of this poison is favored by marshes, more especially when containing mixed salt, fresh water and resting on a substratum of limestone, clay or mud; by swampy, undrained and delta lands, extensive excavations, newly-turned soils, rains after long-continued droughts, and consequent low-water level, careless cultivation of soil, neglect of culture where vegetation is luxuriant, and is permitted to decay on the surface, in fact by the requisite combination, when present, of the essential elements—high temperature, moisture and decomposing vegetable matter.

Nor can it be doubted that it may be diffused through the atmosphere and transmitted by winds and water-courses to non-malarial localities. The circumstances which hinder and prevent the generation of miasmata, are high latitudes and high elevations, drainage, sunlight, a porous soil, and cold. Of these cold is the most powerful and the first fall of temperature below the freezing point, in any malarial region, arrests the process of development, and it does not recommence until the temperature again ranges during the day and night above 58° Fahr."

Now, whilst there are certain well-known retreats in all lands fatal to a malarial tendency, such as Humbolt and other travelers observed in the Himalaya range, the Andes, the more elevated plateaus of Mexico, and the Rocky mountains, as also, of course, in the Arctic zone—for it rarely is found above the 60th parallel north—these places are to most patients inaccessible or otherwise impracticable, because they preclude the opportunities to combine climatic agencies with "bread-winning," which latter may be the integral argument with most of us.

I have secured comparative freedom from malaria which I have carried in my system for twenty years in the pine regions of northern Michigan, Wisconsin and Minnesota, but never to that degree, elsewhere, that I have observed here for the past two years. I was so impressed with the result that I began on January 1st, 1882, to record some meteorological observations, and have continued them bis-diurnally to

include December 31st ult., an abstract of which is as follows:

| 1882. | ABOVE ZERO. 8 A. M. | 5 P. M. | 1882. | ABOVE ZERO. 8 A. M. | 5 P. M. |
|---|---|---|---|---|---|
| Jan. | 1, 30° | 50° | Jan. | 17. −6° | 32° |
| " | 2. 32 | 50 | " | 18. 20 | 52 |
| " | 3. 38 | 56 | " | 19. 30 | 59 |
| " | 4. 28 | 49 | " | 20. 20 | 60 |
| " | 5. 37 | 56 | " | 21. 25 | 57 |
| " | 6. 36 | 52 | " | 22. 20 | 60 |
| " | 7. 34 | 35 | " | 23. 30 | 59 |
| " | 8. 20 | 50 | " | 24. 30 | 50 |
| " | 9. 4 | 42 | " | 25. 30 | 50 |
| " | 10. 21 | 50 | " | 26. 18 | 52 |
| " | 11. 20 | 48 | " | 27. 18 | 50 |
| " | 12. 20 | 26 | " | 28. 19 | 40 |
| " | 13. 8 | 47 | " | 29. 20 | 50 |
| " | 14. 30 | 51 | " | 30. 20 | 48 |
| " | 15. 30 | 50 | " | 31. 18 | 49 |
| " | 16. 15 | 36 | | | |

January.—Cloudy on mornings of 5, 8, 12, 16, 23, 25 and 29, and afternoon of 3, 5, 11, 13, 16, 19, 28, 29 and 31. Snowed on 7 and 16. Clear otherwise.

| 1882. | ABOVE ZERO. 8 A. M. | 5 P. M. | 1882. | ABOVE ZERO. 8 A. M. | 5 P. M. |
|---|---|---|---|---|---|
| Feb. | 1. 18° | 50° | Feb. | 15. 20° | 65° |
| " | 2. 20 | 55 | " | 16. 30 | 49 |
| " | 3. 18 | 59 | " | 17. 26 | 49 |
| " | 4. 18 | 56 | " | 18. 20 | 38 |
| " | 5. 20 | 56 | " | 19. 20 | 39 |
| " | 6. 33 | 50 | " | 20. 20 | 40 |
| " | 7. 29 | 62 | " | 21. 14 | 45 |
| " | 8. 24 | 55 | " | 22. 14 | 59 |
| " | 9. 30 | 66 | " | 23. 24 | 60 |
| " | 10. 32 | 65 | " | 24. 34 | 70 |
| " | 11. 32 | 55 | " | 25. 34 | 73 |
| " | 12. 30 | 50 | " | 26. 34 | 52 |
| " | 13. 18 | 49 | " | 27. 40 | 60 |
| " | 14. 20 | 66 | " | 28. 32 | 60 |

February.—Cloudy at sunrise on morning of 1 and 16; cloudy at sunset evening of 26; and snow fell two inches night of 26 and 27; a "wind storm" on night of 17, from 9 P. M. to 5 A. M., with terrific snow on the Rockies above timber line. Otherwise clear weather.

| 1882. | ABOVE ZERO. 8 A. M. | 5 P. M. | 1882. | ABOVE ZERO. 8 A. M. | 5 p. M. |
|---|---|---|---|---|---|
| Mar. | 1. 34° | 64° | Mar. | 17. 30 | 45° |
| " | 2. 36 | 62 | " | 18. 37 | 52 |
| " | 3. 39 | 70 | " | 19. 32 | 59 |
| " | 4. 22 | 60 | " | 20. 30 | 36 |
| " | 5. 30 | 40 | " | 21. 22 | 65 |
| " | 6. 20 | 42 | " | 22. 29 | 68 |
| " | 7. 20 | 42 | " | 23. 30 | 62 |
| " | 8. 29 | 62 | " | 24. 32 | 66 |
| " | 9. 20 | 36 | " | 25. 40 | 62 |
| " | 10. 18 | 40 | " | 26. 42 | 46 |
| " | 11. 30 | 58 | " | 27. 28 | 70 |
| " | 12. 30 | 50 | " | 28. 36 | 65 |
| " | 13. 33 | 56 | " | 29. 45 | 70 |
| " | 14. 30 | 58 | " | 30. 38 | 79 |
| " | 15. 38 | 60 | " | 31. 36 | 78 |
| " | 16. 40 | 52 | | | |

March.—Cloudy on morning of 14 and 17. Snowed on 5, 6 and 26. Otherwise clear.

| 1882. | ABOVE ZERO. 8 A. M. | 6 P. M. | 1882. | ABOVE ZERO. 8 A. M. | 6 P. M. |
|---|---|---|---|---|---|
| Apl. | 1. 40° | 70° | Apl. | 16. 40° | 50° |
| " | 2. 40 | 67 | " | 17. 32 | 52 |
| " | 3. 50 | 58 | " | 18. 30 | 53 |
| " | 4. 40 | 56 | " | 19. 33 | 58 |
| " | 5. 36 | 56 | " | 20. 40 | 48 |
| " | 6. 42 | 50 | " | 21. 30 | 60 |
| " | 7. 40 | 49 | " | 22. 25 | 60 |
| " | 8. 32 | 60 | " | 23. 40 | 65 |
| " | 9. 36 | 60 | " | 24. 40 | 72 |
| " | 10. 38 | 60 | " | 25. 50 | 72 |
| " | 11. 33 | 45 | " | 26. 42 | 76 |
| " | 12. 34 | 50 | " | 27. 44 | 70 |
| " | 13. 31 | 34 | " | 28. 42 | 50 |
| " | 14. 26 | 58 | " | 29. 41 | 63 |
| " | 15. 29 | 60 | " | 30. 30 | 68 |

April.—Cloudy A. M. and P. M. of 1, 3, 7, 14, 17, 18 and 29. Snowed on 11 and 13. Rained on evening of 28.

| 1882. | ABOVE ZERO. 8 A. M. | 6 P. M. | 1882. | ABOVE ZERO. 8 A. M. | 6 P. M. |
|---|---|---|---|---|---|
| May | 1. 40° | 62° | May | 17. 48° | 62° |
| " | 2. 43 | 72 | " | 18. 47 | 70 |
| " | 3. 45 | 62 | " | 19. 54 | 52 |
| " | 4. 45 | 65 | " | 20. 40 | 46 |
| " | 5. 45 | 65 | " | 21. 41 | 50 |
| " | 6. 49 | 40 | " | 22. 42 | 62 |
| " | 7. 45 | 60 | " | 23. 45 | 60 |
| " | 8. 45 | 55 | " | 24. 48 | 64 |
| " | 9. 42 | 52 | " | 25. 51 | 70 |
| " | 10. 40 | 61 | " | 26. 42 | 62 |
| " | 11. 42 | 67 | " | 27. 46 | 52 |
| " | 12. 45 | 57 | " | 28. 45 | 58 |
| " | 13. 50 | 64 | " | 29. 42 | 60 |
| " | 14. 50 | 66 | " | 30. 45 | 45 |
| " | 15. 46 | 65 | " | 31. 40 | 53 |
| " | 16. 48 | 67 | | | |

May.—Cloudy on A. M. and P. M. of 2, 3, 4, 5 and 27, and A. M. of 8 and 9. Snowed on 20 and 30—last of the season. Rain on A. M. and P. M. of 6 and 7, and P. M. of 8 and 9.

| 1882. | ABOVE ZERO. 8 A. M. | 6 P. M. | 1882. | ABOVE ZERO. 8 A. M. | 6 P. M. |
|---|---|---|---|---|---|
| June | 1. 54° | 65° | June | 16. 60° | 72° |
| " | 2. 53 | 59 | " | 17. 60 | 74 |
| " | 3. 45 | 60 | " | 18. 60 | 76 |
| " | 4. 50 | 72 | " | 19. 60 | 57 |
| " | 5. 50 | 56 | " | 20. 60 | 72 |
| " | 6. 45 | 65 | " | 21. 60 | 73 |
| " | 7. 50 | 72 | " | 22. 61 | 77 |
| " | 8. 55 | 70 | " | 23. 60 | 78 |
| " | 9. 55 | 68 | " | 24. 62 | 78 |
| " | 10. 56 | 73 | " | 25. 63 | 73 |
| " | 11. 55 | 68 | " | 26. 61 | 78 |
| " | 12. 52 | 66 | " | 27. 66 | 68 |
| " | 13. 55 | 71 | " | 28. 62 | 68 |
| " | 14. 52 | 75 | " | 29. 65 | 67 |
| " | 15. 55 | 76 | " | 30. 60 | 70 |

June.—Cloudy on A. M. and P. M. of 5 and 27, and A. M. of 19 and 30. Rain on A. M. and P. M. of 2, and showers on P. M. of 19, 28, 29 and 30.

| 1882. | ABOVE ZERO. 8 A. M. | 5 P. M. | 1882. | ABOVE ZERO. 8 A. M. | 5 P. M. |
|---|---|---|---|---|---|
| July | 1. 60° | 70° | July | 17. 60° | 75° |
| " | 2. 66 | 70 | " | 18. 59 | 70 |
| " | 3. 63 | 78 | " | 19. 58 | 67 |
| " | 4. 62 | 76 | " | 20. 58 | 63 |
| " | 5. 60 | 78 | " | 21. 58 | 66 |
| " | 6. 61 | 70 | " | 22. 60 | 71 |
| " | 7. 62 | 73 | " | 23. 60 | 68 |
| " | 8. 61 | 75 | " | 24. 61 | 70 |
| " | 9. 60 | 68 | " | 25. 60 | 68 |
| " | 10. 63 | 70 | " | 26. 60 | 68 |
| " | 11. 62 | 78 | " | 27. 58 | 67 |
| " | 12. 65 | 80 | " | 28. 54 | 66 |
| " | 13. 68 | 75 | " | 29. 54 | 63 |
| " | 14. 64 | 68 | " | 30. 55 | 70 |
| " | 15. 65 | 70 | " | 31. 57 | 70 |
| " | 16. 67 | 72 | | | |

July.—Afternoon showers on 9, 14, 19, 20, 21, 26, 27, 28 and 29. Clear otherwise, both June and July.

| 1882. | ABOVE ZERO. 8 A. M. | 8 P. M. | 1882. | ABOVE ZERO. 8 A. M. | 8 P. M. |
|---|---|---|---|---|---|
| Aug. | 1. 60° | 80° | Aug. | 17. 56° | 80° |
| " | 2. 60 | 80 | " | 18. 56 | 80 |
| " | 3. 63 | 68 | " | 19. 57 | 82 |
| " | 4. 50 | 70 | " | 20. 67 | 75 |
| " | 5. 55 | 71 | " | 21. 60 | 65 |
| " | 6. 55 | 79 | " | 22. 60 | 72 |
| " | 7. 58 | 80 | " | 23. 60 | 80 |
| " | 8. 60 | 80 | " | 24. 60 | 80 |
| " | 9. 58 | 75 | " | 25. 59 | 82 |
| " | 10. 60 | 80 | " | 26. 60 | 75 |
| " | 11. 60 | 80 | " | 27. 60 | 75 |
| " | 12. 60 | 80 | " | 28. 60 | 65 |
| " | 13. 60 | 62 | " | 29. 55 | 50 |
| " | 14. 59 | 75 | " | 30. 51 | 50 |
| " | 15. 56 | 68 | " | 31. 48 | 53 |
| " | 16. 57 | 82 | | | |

August.—Rain showers on P. M. of 3, 13, 15, 20, 21, 28. Snow on mountains on P. M. of 29, 30, 31—the first of season.

| 1882. | ABOVE ZERO. 8 A. M. | 8 P. M. | 1882. | ABOVE ZERO. 8 A. M. | 8 P. M. |
|---|---|---|---|---|---|
| Sept. 1. | 42° | 68° | Sept. 16. | 58° | 65° |
| " 2. | 50 | 68 | " 17. | 50 | 50 |
| " 3. | 50 | 68 | " 18. | 45 | 62 |
| " 4. | 46 | 68 | " 19. | 45 | 54 |
| " 5. | 49 | 68 | " 20. | 42 | 65 |
| " 6. | 50 | 70 | " 21. | 45 | 70 |
| " 7. | 55 | 70 | " 22. | 45 | 68 |
| " 8. | 50 | 70 | " 23. | 49 | 70 |
| " 9. | 54 | 75 | " 24. | 50 | 70 |
| " 10. | 55 | 75 | " 25. | 48 | 67 |
| " 11. | 56 | 75 | " 26. | 46 | 66 |
| " 12. | 56 | 80 | " 27. | 46 | 68 |
| " 13. | 60 | 80 | " 28. | 41 | 70 |
| " 14. | 60 | 75 | " 29. | 50 | 69 |
| " 15. | 60 | 66 | " 30. | 49 | 70 |

September.—Rain on P. M. of 17. Snow on P. M. 19. Otherwise clear.

| 1882. | ABOVE ZERO. 8 A. M. | 5 P. M. | 1882. | ABOVE ZERO. 8 A. M. | 5 P. M. |
|---|---|---|---|---|---|
| Oct. 1. | 52° | 66° | Oct. 17. | 34° | 49° |
| " 2. | 54 | 68 | " 18. | 36 | 58 |
| " 3. | 54 | 68 | " 19. | 37 | 62 |
| " 4. | 53 | 66 | " 20. | 36 | 62 |
| " 5. | 55 | 68 | " 21. | 38 | 68 |
| " 6. | 54 | 66 | " 22. | 38 | 66 |
| " 7. | 58 | 67 | " 23. | 42 | 68 |
| " 8. | 50 | 62 | " 24. | 42 | 67 |
| " 9. | 50 | 60 | " 25. | 44 | 70 |
| " 10. | 42 | 64 | " 26. | 44 | 68 |
| " 11. | 40 | 60 | " 27. | 44 | 69 |
| " 12. | 34 | 60 | " 28. | 38 | 68 |
| " 13. | 36 | 58 | " 29. | 36 | 68 |
| " 14. | 36 | 56 | " 30. | 36 | 66 |
| " 15. | 34 | 58 | " 31. | 37 | 68 |
| " 16. | 36 | 54 | | | |

October.—S. W. winds on evenings of 1, 2, 13, 14, subsiding in each instance after midnight. Slight snowfall (about 2 in.) on nights of 11, 17. Otherwise clear.

| 1882. | ABOVE ZERO. 9 A. M. | 4 P. M. | 1882. | ABOVE ZERO. 9 A. M. | 4 P. M. |
|---|---|---|---|---|---|
| Nov. 1. | 38° | 70° | Nov. 16. | 20° | 43° |
| " 2. | 36 | 68 | " 17. | 24 | 40 |
| " 3. | 36 | 70 | " 18. | 24 | 46 |
| " 4. | 36 | 68 | " 19. | 24 | 44 |
| " 5. | 36 | 69 | " 20. | 27 | 48 |
| " 6. | 36 | 66 | " 21. | 28 | 54 |
| " 7. | 38 | 68 | " 22. | 27 | 56 |
| " 8. | 36 | 70 | " 23. | 33 | 61 |
| " 9. | 34 | 68 | " 24. | 34 | 63 |
| " 10. | 33 | 60 | " 25. | 34 | 64 |
| " 11. | 24 | 28 | " 26. | 36 | 66 |
| " 12. | 14 | 36 | " 27. | 30 | 66 |
| " 13. | 16 | 38 | " 28. | 34 | 65 |
| " 14. | 16 | 36 | " 29. | 34 | 64 |
| " 15. | 18 | 38 | " 30. | 36 | 60 |

No high wings this month. Snowed on 10 and 11, about 5 inches; otherwise clear weather. Observation A. M. time is 9 o'clock. Observation P. M. time is 4 o'clock.

| 1882. | ABOVE ZERO. 9 A. M. | 4 P. M. | 1882. | ABOVE ZERO. 9 A. M. | 4 P. M. |
|---|---|---|---|---|---|
| Dec. 1. | 33° | 62° | " 9. | 29 | 40 |
| " 2. | 32 | 62 | " 10. | 30 | 52 |
| " 3. | 33 | 64 | " 11. | 30 | 50 |
| " 4. | 32 | 60 | " 12. | 30 | 51 |
| " 5. | 30 | 66 | " 13. | 31 | 56 |
| " 6. | 31 | 65 | " 14. | 24 | 52 |
| " 7. | 30 | 62 | " 15. | 23 | 48 |
| " 8. | 30 | 60 | " 16. | 25 | 54 |

| 1882. | ABOVE ZERO. 9 A. M. | 4 P. M. | 1882. | ABOVE ZERO. 9 A. M. | 4 P. M. |
|---|---|---|---|---|---|
| Dec. 17. | 28° | 42° | " 25. | 22 | 44 |
| " 18. | 26 | 58 | " 26. | 22 | 40 |
| " 19. | 26 | 46 | " 27. | 20 | 36 |
| " 20. | 22 | 40 | " 28. | 6 | 32 |
| " 21. | 24 | 44 | " 29. | 18 | 36 |
| " 22. | 24 | 43 | " 30. | 8 | 30 |
| " 23. | 23 | 44 | " 31. | 4* | 20 |
| " 24. | 26 | 50 | | | |

*Below zero.

High winds southwest night of 9. Slight winds south, all day of 29 and 30. Partially cloudy all day of 29 and 30. Snowed on nights of 20 and 27, about three inches. Observation A. M. time is 9 o'clock. Observation P. M. time is 4 o'clock.

Silver Cliff, the county seat of Custer County, Colorado, where the above data were observed, is in Lat. N. 38°, 10′, Long. W. 105°, 30′, and the same indications may be regarded as applying to the entire county, or an area of 30 miles in an east and west direction, and 28 miles in a north and south direction, and especially to the agricultural portion, or the Wet Mountain Valley.

The elevation above sea level is not far from 7,800 feet (estimating from the grade of the S. C. branch of the D. & R. G. Railway) where the observations were taken, and which is about 300 feet above the general average of the valley.

Poole's Signal Service Thermometer and Barometer, combined, was used, located in the shade and protected from a direct wind current.

The coldest day for 1882 was January 17th, 6° below, and the next coldest December 31st, 4° below. The warmest days were from August 5th to 25th, when the afternoon records ran up to about 80 to 82. The highest morning record was July 27th, 66°. The warmest portion of day was between 10 A. M. and 3:30 P. M.; the coldest being between 2:30 A. M. and daylight. The warmest midday observation indicated 96°; the coldest night was 18° below.

An overcoat was required, in walking, during 13 days of winter months.

It rained all day on May 6th and 7th, and on June 2d.

Afternoon showers began June 27th, and continued, at intervals, of from one to seven days, until August 21st.

Number of days either cloudy or rainy, 27.

Number of clear sunshine days, 291.

The days on which an invalid (able to indulge in out-door exercise) could walk out in comfort, not impeded by snow, or mud, or winds, were for the year 343.

If now we recur to Dr. Busey's monograph before alluded to, and observe that a moisture-laden atmosphere, the deltas, or marsh lands, especially salt marshes, heavy rains, high temperature, continuously day, night certain prevailing winds, favor development of malaria. Per contra, a dry atmosphere, high elevation, sandy soil and porous subsoil, sunlight and cold are anti-malarial conditions. I think the logic of the above weather data will become evident. For whilst the highest morning temperature at 8 o'clock on July 27th indicated 66°, at 3 A. M. it was 12 degrees lower, or 54°, and at no time will you find a continuous daily temperature above 60°.

The cool summer nights and the warm winter days are a natural sequel to a law which Prof. Tyndal has

fully illustrated. For he has shown that while a moist, heavy air and low elevation tend to obstruct the development of the sun's heat rays, it also opposes the elimination of heat, after the sun has set, and that the reverse is true. Hence we find in this dry atmosphere a free evaporation perceptible (within an hour after sunset) in the cool, fresh mid-summer air; as also a delightful glow from the unimpeded sun's rays, by 9 o'clock in a mid-winter day. A cloudless sunrise is the law, and no decay of grasses occurs, because the species here found (unlike those of the Missouri bottoms and its tributaries) have but little woody fibre, and become automatically cured in the autumn season, and are consumed by the stock during winter. We find, therefore, in this zone, not only an absence of those factors which combine to produce this invisible poison, but also every condition which opposes its development and favors its elimination. A zone where complete immunity from this languor, melancholy, neuralgia and and almost suicide provoking poison is assured, may be the only resort, at the present stage of medical art. For the bark which made a countess famous, over two centuries ago, and which Sir Talbot sold to Louis XIV at the rate of $484 a pound, although in materia medica placed as a specific, is a partial delusion. It does modify the acute symptoms, but does not eliminate from the system the sequels. Some other better remedy or combination may be, and doubtless will be, found. Niemeyer, in speaking of the treatment, says: "The state should attempt to remove by sanitary laws the injurious influences which notoriously favor the development of malaria. It should drain marshes where it is endemic, protect lower levels, by dikes, etc." That persons compelled to reside in certain districts should take certain precautions, for instance, on the Wieschell, drink *schnaps;* in Bonate, drink *slivolitz* (whatever that may be); in Hungary, live on melons and pickles; in Italy, on coffee and lemonade; don't eat at night; don't sleep out at night; don't get wet; don't be out early in the morning; live on a hill top; don't bathe in the sea or river; don't use vegetables or milk, etc., etc., and yet, if you get a shake, after all these precautions, take your chances on quinine or leave the country. Life seems almost too short to wait upon the state, and too dear to take chances of delirium tremens on schnaps, or of cholera morbus on melons, or biliousness on coffee, or of a corner in houses upon Capatoline Hill. The intuition of some lower animals may teach a lesson of no little value. Dr. Heber, in his book on Upper India, referring to the "Terra" lands, says: "I asked Mr. Boulderson if it were true that the monkeys forsook these woods during the unwholesome months. He answered that, not monkeys only, but everything which has the breath of life, instinctively deserts them from the beginning of April to October. The tigers go up to the hills; the antelope and wild hogs make incursions into the cultivated plains, and those persons such as dâkbearers (mail-carriers) and military officers, who are obliged to traverse the forests in these months agree that not so much as a bird can be found or seen in the frightful solitude. It is in the extreme heat, after the rains of May till early in September, that it is most deadly. In October the animals return." The vast majority of miasmatic victims, however, are so environed with business ventures of a local character, that they are compelled to compromise and use local treatment, and only to those who are free to undertake new enterprises is this article of interest.

## The Limits and the Tests of our Medicinal Standards.

By Albert B. Prescott, M. D.*

THE general interest in the question of full weight of quinine in pills exemplifies a healthful increase of vigilance as to the standards of strength and purity of medicinal agents. In the supply of both medicines and foods there is first an imperative call for faithfulness, and next a resulting demand for clearer limits to the legitimate variations of strength and purity. We need better data and surer tests by which faithfulness may be judged.

While very justly questioning the strength of quinine pills, it were well for physicians to bring to mind the variable concentration of sulphate of quinine itself. And at this time, when earnest members of the various pharmaceutical societies, and active students of the schools of pharmacy, may very profitably engage in the determination of quinine, in its various manufactured forms, it were well to set out in view certain precautions to be observed in obtaining analytical results.

Good sulphate of quinine varies in strength as it varies in hydration. The water of crystallization is placed at seven molecules, or about 14.45 per cent. of the crystals, but has been stated by some authorities at eight molecules, or 16.18 per cent. of the crystals. By exposure in air of even ordinary dryness the crystals invariably effloresce,—finally retaining only two to three molecules, or about 4.6 per cent. of water. By exposure to a temperature of 140° F., this complete efflorescence is completed in a few hours, and a nearly constant remainder of about 4.6 per cent to 4.13 per cent. of water is obtained; the salt so dried neither gaining nor losing moisture in ordinary air. Now how much water, at the most, shall we consent to buy and sell and administer in sulphate of quinine? If we accept, upon the weight of authority, the constitution of perfectly pure crystals as containing only seven molecules, or 14.45 per cent of water, we must admit that additional water, apparently to the amount of near one molecule is so strongly held by adhesion that it is not easy to manufacture the salt in crystals free from efflorescence, without usually exceeding the 14.45 per cent. of water. The German pharmacopœia of 1882 permits the loss of 15 per cent. of water at 212° F.,—the time of drying not limited. The U. S. pharmacopœia just issued, permits the loss of 16.18 per cent. (eight molecules) of water at 212° F., by three hours' drying. In the British pharmacopœia and the previous revisions of the U. S. and German pharmacopœias, there has been no limit to the loss of water by drying. The new limit of our pharmacopœia is a liberal one, but it was fixed after much investigation. The closer limit of the German pharmacopœia still permits the salt to contain about 7⅓ molecules of water.

At all events the sulphate of quinine of the leading manufacturers, taken fresh from the cans, is found to yield percentages of total water ranging all the way from near 16 down to 9. And the salt which has

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been exposed or has been kept some time in dispensing bottles frequently opened, is often found with only five or six per cent of total water. Then it must be admitted that good sulphate of quinine of pharmacopœial standard, as dispensed, will vary in concentration as follows:

Fresh from the can, 84 or 85 per cent to 91 per cent. of anhydrous salt—an increase of 7 or 8 per cent. in degree of concentration.

In dispensing bottles, 84 or 85 per cent. to 95 per cent. of anhydrous salt—an increase of 12 or 13 per cent. in degree of concentration.

Again, it will be borne in mind that the bisulpate of quinine, sometimes preferred for more rapid solubility, is not by any means the equivalent in quinine of the same weight of ordinary or normal sulphate of quinine. Thus in typical crystals, normal sulphate has $\frac{648}{871}$, or 74.31 per cent. of anhydrous quinine; bisulphate has $\frac{324}{548}$, or 59.12 per cent. of anhydrous quinine.

Therefore the bisulphate has 79 per cent. the quinine value of the ordinary sulphate; and a pill containing two grains of pure and perfect bisulphate has the strength of 1.58 of a full two-grain pill of ordinary quinine sulphate. The bisulphate, also, is efflorescent, gaining strength by exposure to air, like the ordinary sulphate. The pharmacopœia requires that, when dried on the water-bath, to a constant weight, it should not lose over 23 per cent. (seven molecules of water).

The deviations in strength from changes of hydration are not alarming, but it is well to bear them in mind. If unusual exactness of administration were desired in any case, a prescription could specify sulphate of quinine (not effloresced). Possibly the time may come when there will be a demand for some form of quinine having a limit to the increase as well as to the decrease of its strength—such as the sulphate fully effloresced at 104° F., neither losing nor gaining weight in the air. We have already reached upper as well as lower limits for opium in a pharmacopœial maximum as well as minimum morphine strength of powdered opium, and a single fixed limit, in the denarcotized opium of the late revision, graduated to an unvarying degree of morphine strength. The boy who said the boots fitted him but he would take a size or two larger if they would not cost any more, was not more childish than a medical man who would be quite content to have overstrengths of medicines put up in all cases.

But the deviations in strength above noted are not alarming, because they can go no further than known limits. They are not liable to extension by the caprice of persons. Any dilution, however small, if it be illegitimate—made to be concealed—has within it the special element of danger, always incurred when the quality of medicinal agents suffers by tampering at the hands of the unscrupulous. Any shortage clearly due to cupidity or carelessness ought to be alarming. The time to stop in deviations of this character is at the beginning, for if they are not stopped at once, nobody knows how far they may go.

The standards of quality and strength of important drugs should be habitually tested by rigorous analysis. But analytical results in any degree fallacious do more harm than good. And to impose blame where it does not belong is to exert an influence even more demoralizing than that of neglect. A few cardinal precautions may be mentioned, as having a general application.

One of the best safeguards in a pharmaceutical assay, where an alkaloid or other distinct substance is to be determined, is a parallel operation made upon a known quantity of the alkaloid or other distinct substance sought, taken in mixture with the same materials encountered in the actual assay. First, let there be made a sufficient qualitative analysis of the pill, or elixir, or other preparation to be assayed. If it be for quinine, as an example, place a known quantity of pure sulphate of quinine in mixture with the ascertained quantity of the gum and sugar, or whatever material the article has been found to contain. If the assay be for the sulphate of quinine, by all means weigh two equal portions of the standard salt, and dry one portion to find the exact amount of water in it. For the purposes of an exact assay, dry at 112° to 115° C. (233° to 239° F.), until a constant weight is obtained, cool in a desiccator (as the anhydrous sulphate is hygroscopic), and weigh as anhydrous sulphate. The dried residue itself is not used as the known quantity of alkaloid in the control assay, because its alteration by heat affects certain of its solubilities. The loss in drying represents the total water in the quinine sulphate used. The weighed portion of this, not dried, is now taken in mixture with the excipients already determined. In any case, the two assays, one to find an unknown quantity of the chief constituent, the other to test the result by a known quantity of the same constituent, are now to be conducted at the same time, in exactly the same way, so that every condition of temperature, time, and mass, shall be the same. If reagents are added, or washing is done, the additions are to be in measured quantities, alike for each operation. Care is to be taken that in stirring, or shaking, or filtering, there are no differences between the two operations. So conducted, the operation upon the known quantity becomes truly a control assay. Thus if the anhydrous quinine of such a control assay, calculated into anhydrous sulphate, and increased by the amount of water found in the drying, gives just the quantity in which the two portions of crystallized sulphate were taken, then the result is worthy of confidence. Of course, duplicate and triplicate trials may still be made.

The agreement of several analyses, each made upon a like portion of the same material, and each made to find a quantity not known, does not constitute true control analysis. Such agreement just shows that the process has been faithfully carried through in a way that has been rigidly the same with each assay, but it does not show at all whether the process itself is competent to give correct results or not. It speaks well for the manipulation, but does not speak for the method adopted.

Unless the qualitative composition can be assumed, the qualitative analysis must be thoroughly done. In case of an assay for quinine, the search for other cinchona alkaloids must be faithfully made before the assay, and afterward the product of the assay must be tested as to its purity. If the qualitative examination is difficult, the assay result must be questioned the more closely. In an assay for strychnine, if brucine appear in the qualitative examination, a corresponding proportion of brucine may be added, with the weighted portion of strychnine, in the control assay, and both assay results must be ex-

amined in comparison with each other as to brucine. The service of control assay is most efficient in preparations having only a few sharply defined ingredients. In analyses of plants, and parts of plants, owing to the complexity of the chemical composition, control assays have only a limited application. It does not appear practicable to put an exact check upon the assay of opium for morphine by any operation upon a known quantity of morphine, because we cannot well add the true opium constituents surely destitute of morphine. On the other hand, it is not difficult to check an assay of citrate of iron and quinine, by parallel trial of a portion made with a known weight of pure quinine. If the result of the control assay, in any case, is above or below the quantity taken, an amendment of the process is indicated. If no process can be finally found to give true results, it may be attempted, by repeated trials, to establish a percentage of loss or of gain due to the process, but corrections for loss or gain are to be adopted only with caution. Finally, analyses having important bearings should be reported with an explicit account of details.

With a full recognition of legitimate deviations from typical composition, with good authority as to properly required limits of strength and purity, and with a judgment based upon sufficient special experience, the confirmed results of analysis may be clearly interpreted, and the conclusions firmly drawn. It may be said with truth that analyses are wanted. And analytical work will be able to compel faithfulness and skill of manufacture, just in the proportion that it is able to bring faithfulness and competence into its own responsible tasks.

## One Case of Diphtheria.

By H. Stieren, M. D., Mason, W. Va.

DURING the greater part of February last, Annie K., about 15 years old, of robust constitution and general good health, had been attending to, and nursing her older sister, æt. 25, living over in Ohio, shortly after her fourth confinement, in a sickness from which she died at the commencement of March, and which sickness her medical attendant had asserted to be "a peculiar kind of typhoid fever," although, as I was credibly informed not long after her demise, "she had actually choked to death." Parenthetically be it mentioned that before her marriage, and consequent removal to Ohio, I had treated this young woman repeatedly for ulcerated sore throat. On March 22nd Annie's father consulted me, stating that she had been afflicted with a severe cold since about two weeks, but feeling averse to taking medicine, she had refused to consult me herself, adding that soon she would be all right again. I ordered a chloride of ammonium and senega mixture as a resolvent and expectorant. The next day she was reported as no better, and being desired to examine her personally, I found her upon my arrival at their home, suffering from diphtheritis of a most vicious character, bacterial accumulations extending to the glottis. I at once directed frequent and thorough gargling with the carbolic acid mixture described below, and administered against pronounced constipation one-half grain podophyllin with eight grains rhubarb, which in a few hours had the desired effect, whereupon, finding her feverish and restless, with hot, dry skin, I prescribed the following:

℞ Cortic. calisaya subt. pulv., ʒ j
Acid nitric pur., ʒ ss
Tinct. rhei vinos., ʒ vj
Aq. rosar., ʒ iij.

M. Sig. One-half tablespoonful every two to three hours, shake well, recommending lemon juice with water and sugar as a beverage *ad libitum*.

The following day, March 24, I found that the gargle had commenced doing some slight service, and the restlessness had subsided, giving way to a somewhat stupid indifference, with skin still hot and dry. Drawing attention to the importance of the uninterrupted use of the gargle, I continued also the calisaya mixture.

On the 25th, in the morning, I was informed that the patient, who exhibited the same appearance, had had six or seven copious, thin, gall-like stools, besides several the previous evening, when I discontinued the Peruvian bark mixture, but ordered a small teaspoonful of flores sulphuris for a dose, to be taken three times during the day dry by the mouth and swallowed gradually, at the patient's convenience.

Be it here stated that, although the sick girl could scarcely swallow a particle of solid food, and felt reluctant to almost anything except pure, cold water, I recommended from the start the most generous diet, dry toast, with jelly, roasted veal, beef or mutton, and some grape wine, attempting in vain to stimulate her appetite.

The 26th Annie appeared to, and did breathe somewhat more easily, owing to the enormous bacterial discharges, but still felt equally languid. Examination of the throat showed no discernible diminution of the parasitic deposits and excrescences. I now gave her the following mixture, which, together with the gargle and a generous diet, as indicated before, will, with sometimes slight alterations, in the hands of any competent and intelligent practitioner, effectually dispose of almost every case of ordinary, true diphtheria:

℞ Potass. chlorat. subtiliss. pulv., ʒ vj.
Aq. fœniculi, ʒ jv.
Vin. ipecac, ʒ jss.
Tinct. sanguinar., ʒ ij.
Tinct. pimpinell., ʒ ss.
Tinct. rhei vinos, ʒ vj.
Syrup citri, ʒ j.

Quibuscum intime misce.

Sulphur præcipit., ʒ iij.

Dose: Tablespoonful every three to four hours; shake before taking.

It will be observed that this mixture, which I should have given from the beginning, had not the condition of the patient demanded a tonic first of all, contains more chlorate of potash than is soluble in the quantity of the liquid. And I do this purposely, for experience has taught me that the salt, even in the finest state of pulverization, consists still of microscopic crystals, which act also in a mechanical way, as a corrodent, thereby loosening and dislocating the deposits.

Up to the evening of March 27th, Annie continued to improve under this treatment, the skin having become slightly moist and more natural, the throat presenting a better appearance, breathing still easier and appetite returning; when she complained

of pain (incipient pleurisy) in the left side of the chest which, I encouraged her, would soon wear off again. But the pain continued to increase, and on the evening of the 28th had developed into pronounced pleuritis, accompanied by extreme dyspnœa and several fainting spells, when, becoming seriously alarmed, I applied at once, as a counter-irritant, to the infracostal region, a little to the left of the left nipple-line, but still covering the last rib, a perpetual blister (consisting of an ethereal solution of cantharides and divers gummata spread on silk) of the size of three inches square, giving simultaneously five grains Dover's powder, which dose was repeated an hour afterwards. About an hour and a half after the first dose of the powder and the application of the blister she rested easy in every respect, the pain having almost totally subsided, but feeling impatient of the irritation caused by the blister. At 10 o'clock P. M. I gave her three grains of quinine, which dose was repeated every six hours for the next two days. The morning of the 29th she received me with a smiling face and pronounced herself considerably better, although fretting about the inconvenience caused by the plaster, which had drawn a blister the size of a large hen's egg and was opened; but she was easily persuaded to leave it on a few days longer till it would come off spontaneously. Gargle and chlorate of potash mixture had been and were continued all along, though now at greater intervals, the latter to April 2, the former to April 10, when recovery was complete, although leaving her, notwithstanding her partaking liberally of the diet aforementioned, in a considerably exhausted condition (and she had been a very sick girl) from which she totally rallied during the next two weeks with the help of the following:

℞ Chinin. sulphur., gr. iv.
Tinct. ferr. chloridi., ʒ ij.
Sacchar. alb., ʒ i.
Aq. rosar., ʒ iv.

Mds. Teaspoonful three times daily before meals.

What insidious and complete hold the disease had taken on the girl is best proved by the statement that during last summer she almost completely lost her hair, which though is at present again more luxuriant than ever.

GARGLE IN DIPHTHERIA.

℞ Aluminis pulv., ʒ ij.
Tannin pulv., ʒ j.
Aq. salviæ, ʒ vj.
Glycerin, ʒ ij.
Acid. carbol. solut. fortiss., gtt. 24.

M. f. gargarisma.

In the foregoing I have not pretended to give a full treatise on the evil "diphtheria," which I may do at some future day with the addition of the result of my microscopic researches, after their completion, but have singled out this more recent case with the hope that many a fellow-practitioner, standing helplessly and discouraged at the side of a sick-bed with the eyes of the whole family and many neighbors resting upon him in anxious expectation, may be benefited by my experience.

Of seventy-four marked cases since 1864, including infancy, youth, manhood and old age, male and female, of which I have kept record and treated in the manner mentioned, I have lost eleven, while sixty-three recovered. But, considering that five had previously been treated by others and my statement to the relatives from the start my disbelief in ultimate success, and that one case was under my original treatment only one day when death ensued, ignorance and inattention on the part of the parents being the sole cause, there remain sixty-eight cases under my whole and full treatment, five of whom I could not save; little over 7½ per cent.

No adult person, and no child either, that could be made to appreciate the importance of the gargle and did use it, I have lost.

## Notes on Pancreatin.

By A. B. Lyons, M. D., Detroit, Mich.

A. BECHAMP obtained the microzymes of the pancreas, which contain its ferments, by the following process: The pancreas was reduced to a pulp with water containing a little alcohol. After filtration the impure microzymes were washed, collected and freed from enveloping fat by maceration in ether, and finally washed with water. Under the microscope they have the appearance of the structures found in good beer yeast. The diameter of the cells does not exceed .0005 mm. Their color is gray brown. They are free from bacteria. They quickly liquify starch paste, and the water in which they are suspended has the same property. From 20 beef pancreases there were obtained 130 grm. moist microzymes, containing about 12 per cent. of dry substance. Three to four grm. of these moist microzymes dissolved, in 1 to 2 hours, 36 to 45 grm. of moist (well-drained) fibrin, at 36° to 45° C. Casein and acid albumen, prepared by the action of fuming hydrochloric acid upon white of egg, required a somewhat longer time. There was no odor of putrefaction accompanying this action of the pancreas ferment. The microzymes do not lose their activity in doing their work, for they will operate a second and a third time. These structures are cells, and like other cell formations, they propagate themselves, and in this manner their action is explained.

*Composition of the Pancreatic Fluid.*—Tiedemann and Gmelin, 50 years ago made an analysis of the pancreatic secretion and found it to consist of 91.72 per cent. water, 3.5 per cent. albuminoids, 3.9 per cent. alcoholic, and 1.5 per cent. aqueous "extractive."

Th. Dufresne has recently succeeded in isolating the active principles of this secretion. These he finds to be three in number, corresponding with the three distinct functions of this fluid in carrying on digestion. To the first of these, which has the property of converting starch into glucose, he gives the name of amylopsin; the second, which decomposes fats, separating them into glycerin and the constituent fatty acids, he names steapsin; and the third, which dissolves and peptonizes albumen, he calls myopsin.

Dufresne found that acetic acid added to pancreatic solutions prevented the action of amylopsin and steapsin, but not that of myopsin. Alcohol added in different proportions produces precipitates differing in composition and in behavior.

*Preparation of Myopsin.*—With 100 parts of a filtered solution in water of 15 parts of dried pancreatic juice, mix 30 parts of acetic acid sp. gr.=1.04. After 24 hours the fluid is filtered from the precipitate and precipitated by an excess of alcohol. There is thus obtained a substance soluble in water, coagulated by heat, which is capable of dissolving 104 times its

weight of coagulated albumen, but is without action on starch or fats. This is pure myopsin, and when dried on plates of glass is obtained in shining, garnet-colored scales.

*Steapsin.*—To a filtered and concentrated solution from the pancreas of the ox is added alcohol in such proportion that the mixture may contain about 21 per cent. of absolute alcohol. After 24 hours the precipitate is collected and washed with 21 per cent. spirits. Dried on glass plates it forms transparent shining scales, soluble in water, precipitated from solution by dilute spirits, its activity destroyed by acetic acid. This is steapsin, and is capable of decomposing 24 times its weight of fat, but not transforming starch into sugar.

*Amylopsin.*—One hundred parts of a cold extract from the pancreas of the ox is treated with a mixture of 12 parts acetic acid (sp. gr. 1.04) and 60 parts water. The precipitate so formed is separated at once and after two hours the filtrate is precipitated with alcohol of sp. gr. .85, sufficient to make the mixture contain 50 per cent. absolute alcohol. The precipitate is collected and washed with 50 per cent. spirit. Dried on glass it forms shining citron-yellow scales which are soluble in water, precipitated from such solution by alcohol and by concentrated acetic acid and coagulated by heat.

*Pancreatins of the market.*—That of Dufresne is a yellow hygroscopic powder of an "animal" flavor; 70 per cent. of it dissolves in water. The solution is of the consistency of white of egg. It dissolves 30 times its weight of albumen, changes into glucose eight times its weight of starch and decomposes ten times its weight of fat.

The solution of albumen takes place in a feebly acid fluid. One drop of lactic acid suffices for 25 grains albumen and 25 grains water. The action upon starch and fat took place without any addition at a temperature of 20° to 40°C.

German pancreatin is in the form of a whitish powder of sweetish smell and cheesy taste, reminding one of Roquefort cheese. It consists of 80 per cent. of milk sugar and 15 per cent. of insoluble substance. It dissolves from 0 to 6 parts of albumen.

A pancreatin of French manufacture consisted of gray masses of a strongly animal smell and taste. It was completely soluble in water and contained no foreign substance, but did not coagulate by heating and did not dissolve albumen. A good preparation ought to dissolve 36 times its weight of albumen. The 20 per cent. preparation therefore, if of good quality, must dissolve seven times its weight of albumen. Such an article, however, does not appear to be at present obtainable in the market.

*Concentrated Pancreatin.*—The pancreas of the pig is to be preferred. If that of the ox is used, it should be mixed with at least one-third of the former, since it would otherwise be deficient in power to act on albuminoids.

The pancreas, freed from fibrous tissues and fat (about 1000 grm.), is reduced to a fine pulp by a sausage machine. This is mixed with one-half its volume of water, and ½ grm. chloroform, brought on to a strainer, and thoroughly pressed out. The strained fluid is evaporated in shallow vessels at a temperature not exceeding 45° C., either in vacuo, or in a current of warm dry air. It is then reduced to a powder, and immediately put in well closed bottles and kept protected from sunlight.

Pancreatin thus prepared should be a yellowish or yellowish white powder of a peculiar odor, similar to that of spoiled meat, and of a taste that reminds one of extract of beef. It is only partially soluble in water. A pancreatin which dissolves completely in water is apt to have little peptonizing power.

*Test.*—Pancreatin is only partially soluble in water, and wholly insoluble in spirit.

If .1 grm. of pancreatin and .1 sodium bi-carb. are mixed with 25 grm. water and 5 grm. fibrin, and kept twelve hours at 35° to 45° C., the fibrin must be dissolved and completely peptonized, so that a filtered portion of the solution is not at all or only very slightly precipitated by nitric acid; .1 pancreatin, .1 sodium bi-carb., 150 to 200 grm., starch paste containing 5. grm. starch, treated as above (twelve hours at 35° to 45° C.), yield an easily filtered solution which reduces Fehling's solution (quantity not stated).

## Compound Fluid Extract Sarza Pseudo-China.

By Dr. Linnæus B. Anderson, Norfolk, Va.

FOR more than a century there has been used by a few physicians and by certain families in the counties of Carolina and Hanover, Virginia, a most reliable and incomparable vegetable alterative prepared from the roots of the Virginia China (sarza pseudo-China) devil's bit (Helonias dioica), and Virginia sarsaparilla (menispermum Canadense) with occasionally the addition of star root (Aletris farinosa). Possibly because of its greater scarcity, but more probably because it was found unessential to the alterative powers of the others, this last, for many years, has been discarded. Before proceeding to discuss the physiological action and therapeutic value of this preparation, I will settle accurately the agents which are used under their given names:

1. Sarza Pseudo-China.—This plant grows in moist situations in most of the southern states, has a small wiry vine, twining itself around small trees and bushes, and rising to several feet in height. It has a very peculiar seed-pod, which would distinguish it at all seasons and everywhere—being oval, with three cells diverging from a common centre, each containing small dark seeds. The leaves are very like sarsaparilla leaves, while the roots are flesh-colored, angular, horny, from half an inch to three-quarters of an inch in diameter, and matted together in great abundance. When fresh they are succulent and easily broken; when dry, hard, tough and prickly, and grow several feet long. Not having the plant before me I have given this general, unscientific description from memory.

2. Helonias Dioica or Devil's Bit.—Dr. Pass and others have described quite another plant under this name, on what authority I know not. But the old legend in regard to Devil's Bit settles the question in my mind and satisfies me that they are mistaken. It is said that "once upon a time" this plant was a sovereign remedy for all the ills to which flesh is heir, and that the devil, being thus cheated of his expected prizes, sought out the remedy and found its virtues resided in the root, and hence he "bit" off that portion, leaving only a blunt ragose protuberance at the base of the stem, from which branched off hundreds of small quill-shaped succulent roots, from six to twelve inches long. From these the stem

rises from four to eight feet, rough and woody, with long lanceolate leaves and terminating in a cluster of purple flowers. It grows in low, rich, marshy places, and is vulgarly called "devil's bit," "iron weed," "stick weed," etc. The flowers are shaped like a painter's brush.

3. The Virginia sarsaparilla or menispermum Canadense, is a flourishing vine of a greenish-yellow appearance, smooth, and from one-fourth to half an inch in diameter. It grows in sandy soil on the margin of rivers and entwines itself around trees often to the height of twenty or thirty feet; leaves green, smooth, oval; seeds moon-shaped; roots long, angular, yellow, and varying in size from one-fourth to half an inch.

The roots of all these are the parts used medicinally.

A hundred years ago a man by the name of Irving, who called himself "Dr." Irving, visited semi-annually the counties of Carolina and Hanover, in this state, treating various chronic troubles, among which scrofula was the most prominent. His success in the treatment of many phases of this protean malady was so remarkably uniform that his reputation spread far and wide. At the time my honored and learned father, Dr. Thomas B. Anderson, of Carolina county, Va., entered upon the duties of his profession in that county, in the year 1812, "Doctor" Irving was dead; but "his works followed him." My father found an old woman, who had procured from Irving his recipe, who was engaged in the treatment of scrofula, and persons from all the region round about would come, almost daily, to be cured of that often loathsome disease. He saw many of the cases, observed the progress of the treatment, and was often amazed at its triumphant results.

The roots of the above agents were procured, and as much of each as could be grasped in the hand between the thumb and middle finger, and four inches long, were cut into small bits and put together into a gallon jug and that filled with water and closely corked. It was now placed in a pot or oven of water, and that kept at a temperature a little below the boiling point for ten hours. It was then taken out and immersed in a spring of cool water and there kept until it was used. The dose was from one-fourth to one cupfull, three times a day, according to the age of the patient. The diet was corn bread and butter, milk or molasses.

My father procured the recipe, and for sixty years and more prepared and used the remedy in strict accordance with its requirements. Under its influence the most loathsome subjects, embracing the most hopeless cases of ophthalmia, enlarged and suppurating cervical glands, extensive ulcers on the extremities, burrowing deeply between the muscles and exposing the periosteum, were cured and the constitutional disability entirely removed. In many bad cases the remedy would often be continued for six months.

After I commenced the practice of medicine, I procured a distilling apparatus, so that all the ethereal virtues and essential oils which might escape by ebullition could be preserved, and putting an ounce of each of the roots to a quart of diluted alcohol (alcohol 1 part, water 3 parts), I boiled it gently for several hours, and mixing the retained and decanted liquids, I gave a tablespoonful three times a day. My preparation was equally as efficacious as "Dr." Irving's.

Believing that pulmonary tuberculosis was only one variety of scrofula, I tried this remedy in conjunction with sanguinaria and black cohosh in many cases, and I may be permitted to say, with more encouraging and satisfactory results than I have ever obtained from any other remedial agent.

The first ostensible impression made by the use of this remedy, is an increase of appetite. It gives tone to the digestive organs, promotes the secretion of gastric juice, and hence enhances the digestion and assimilation of food. It increases the secretion of bile and urine, and promotes the healthful peristaltic action of the bowels. The absorbent system, under its use, is greatly energized, and glandular swellings are reduced and removed, but in the progress of its work, the most striking exhibition of its sanative and benign influence, is manifested in the nutritive functions. While old effete and morbid tissues are being removed, healthy and sound materials take their places, and the system is thus gradually restored to a healthy status.

I know of no agent which exerts so benign and marked an influence over the nutrient functions as this, and hence, when the organic nervous centres cease to impart to the blood and capillaries that peculiar selective power, which is essential to nutrition, it is this agent which will most surely and promptly restore the lost function. These old ulcers are healed, indurations and swellings removed, injected and torpid capillaries emptied and restored to action, and a general expression of health and vitality given, where loathsome disease and degeneration ran riot.

I have had some cases in which the torpor and unimpressibility of the system were such that this remedy failed to make a favorable impression in a reasonable time, when a few doses in small quantities (2 to 4 grains) of iodide of potass. would awaken a responsive action and set in motion the whole digestive and assimilative apparatus.

I am very sure if a fluid extract of these agents, in equal quantities, can be made so as to extract and retain all of their medicinal virtues, the medical profession would possess an alterative tonic which would surpass any other they have ever used. I am convinced also, from my experience in its use in tubercular consumption, that in conjunction with such expectorants and anodynes as may from time to time be indicated, it will produce results which but few have dared to hope for and fewer still have anticipated. In cases as hopeless as any I ever treated, I have seen, under a continuous use of this agent—in one case in conjunction with syrup of sanguinaria and nitric acid, in another in conjunction with sanguinaria and cohosh, in others with sanguinaria, mullein and hoarhound—the most satisfactory results follow. Thus while the expectorants were aiding the mucous membrane of the bronchial tubes in throwing off offending matters, the alterative was removing tubercular deposits and supplying the wasted tissues with healthy nutritive material.

Can not Messrs. Parke, Davis & Co. take this matter in hand and supply the medical world with one of its most desirable remedies?

## Alcohol in Health.

By C. Barlow, M. D., Eaton, Ill.

I NOTICE an extract from the American Pharmacist in the November number of the Therapeutic Gazette, in which the editor, in speaking of the effect of liquor prohibition laws on the opium habit, says: "A great deal of blame for this habit can very justly be referred to those, who in their desire to prevent intoxication, have introduced laws prohibiting the sale of liquors. We find from the information accumulated by the Michigan State Board of Health, that the consumption of opium is greatest in those states where the strongest prohibition laws are in force." I do not believe there is anyone to blame in this matter, for we should expect a greater consumption of opium, following the enforcement of prohibition laws. In the first place many persons who drink alcoholic liquors are also opium eaters. It is also a fact that nearly all who use them use tobacco. They must have some additional stimulants, and opium as well as tobacco answers the purpose admirably. Every drink of alcoholic liquor taken increases the desire for stimulants, hence we might expect any one who uses it to naturally resort to opium, tobacco, etc., as adjuncts to their more favorite stimulant. And we can readily forsee the result; when alcohol cannot be had opium will be taken in increased quantity. So then the question is, does liquor prohibition increase the number of opium eaters, or only increase the quantity taken by those who already use it? I presume it does both to some extent; but it has no effect upon any other class than the one that uses alcoholic liquors. And only a few of these—except those who were already addicted to the habit—would resort to opium. Those who had never used it would not be very likely to take up the habit unless they were given opium by their physician for some painful malady; but the number that would contract the habit in this way would be comparatively small; and we would have quite a number left who neither use opium nor alcohol, and the latter are certainly greatly benefited by the prohibition. I do not believe that liquor prohibition has any perceptible effect on the consumption of opium except, by increasing the quantity taken by those who were addicted to the habit before the enforcement of prohibitory laws. Liquor prohibition could have no effect on any except those who were habitual drinkers, and if it would free half of them from the slavery of intemperance, even though the remaining half would kill themselves with opium, then the prohibitionists would have done a righteous work. Since it is only those who were addicted to alcohol that resort to opium we may confidently expect a corresponding decline of the habit, as the generation that uses it pass away; the next generation will not have that morbid appetite for stimulants which the constant use of alcohol creates. He says: "Some powerful stimulant appears to be a necessary adjunct to man's existence." Is such the case? We think not from the fact that a large number of the race do not use stimulants of any kind; and many of those who do use them have inherited the appetite; and we are positive that if liquor prohibition could be enforced for one or two generations men would lose much of their desire for stimulants. We do not believe that powerful stimulants are necessary for the well being of any one, but to the contrary, that they are injurious just in proportion to the quantity taken.

In the volume of Transactions of the Illinois State Medical Society for 1881, the chairman of the Committee on the Use and Abuse of Alcohol, reported as follows: "Such being a few of the facts as to the hurtful effects of alcohol, I would report that it should never be used in health." Now, a report of this kind, sanctioned by that august body, would be very mischievous if alcoholic stimulants were really necessary for the well-being of even a small proportion of mankind. The following certificate is given in the preface to Carpenter's Prize Essay on The Use and Abuse of Alcoholic Liquors in Health and Disease: "We, the undersigned, are of opinion:

'1. That a very large proportion of human misery, including poverty, disease and crime, is induced by the use of alcoholic or fermented liquors as beverages.

'2. That the most perfect health is compatible with total abstinence from all such intoxicating beverages, whether in the form of ardent spirits, or as wine, beer, ale, porter, cider, etc.

'3. That persons accustomed to such drinks may with perfect safety discontinue them entirely, either at once or gradually, after a short time.

'4. That total and universal abstinence from alcoholic beverages of all sorts would greatly contribute to the health, the prosperity, the morality and the happiness of the human race.'"

The above was signed by upwards of 2,000 physicians of all grades, "from the court physicians and leading metropolitan surgeons, who are conversant with the wants of the upper ranks of society, to the humblest country practitioner, who is familiar with the requirements of the artisan in his workshop, and the laborer in the field." From the above we do not understand that "some powerful stimulant appears to be a necessary adjunct to man's existence." We quote again from The Pharmacist. It says: "It is impossible to deprive a human being of his stimulant, for if you remove one, another—often worse—takes its place."

Now, it is a question whether there is a worse stimulant than alcohol. When we consider the catalogue of crimes for which it is responsible, and the immediate and remote effects upon those who use it on the community at large, and its pernicious effects upon posterity, and the domestic misery it is capable of producing, and its deleterious effects upon society, we may doubt whether there is another article in existence which is capable of doing as much mischief as alcohol. It certainly does not find its equal in opium. Are the immediate and remote effects of opium so hurtful to those who use it, and to the community, as those of alcohol? Will it cause men to spend fortunes, abuse their families, murder their wives, and turn their children out of doors? Will it fill our jails, penitentiaries, alms-houses and asylums, as alcohol has done? Will it cause men to commit the atrocious crimes which alcohol has caused them to commit? Will it ruin as great a number of persons as alcohol? Are its effects upon posterity as pernicious as those of alcohol? These are all questions to be considered, and if the effects of opium are more prejudicial than those of alcohol, and if it is capable of doing more mischief, and of affecting a greater number of persons, and if it has a more dele-

terious influence on community, and destroys more property, and breaks up more families, creates more paupers and criminals, than alcohol, then I would say that prohibition is to blame, and that it is doing an evil work; but until I am convinced that such is the case, I conclude that prohibition is beneficial, whatever effect it may have on the opium habit. Even though it may be ten times more than we might reasonably expect, it is only productive of a very meagre argument against liquor prohibition. The sale of opium should also be restricted; but if we cannot prohibit the use of both opium and alcohol, let us not bring the lesser evil as an argument against the suppression of the greater.

## Damiana as a Nervine.

By Wm. Fahy, M. D., Oxford, Miss.

THERE are in this strange cranky world of ours many strange theories, many strange isms, and many quaint and curious doctrines. In the social relations, in business, in law, in religion, we come across them every day in our weary pilgrimage to —— where? *Quien Sabe!* I know not—do you, my masters? A strange heading, truly, the reader may remark, to an article in a prosy practical magazine of therapeutic lore—not prosy, however, to the educated physician who eliminates from the driest literary pabulum the gold that he alone can sever from the dross. Can you see what I am aiming at, friend Brodie? No! Well, it is simply the dogmatic æstheticism and sunflowery, Oscar Wilde-y seclusiveness and pretentiousness of the elite (?) of our profession, who arrogate to themselves the exclusive right of dictating to their humbler brethren, the therapeutic agents they shall use in aiding our grand old Mother Nature (who laughs at them all) to perfect a cure. It is really with fear and trembling that I pen this article in enthusiastic praise of damiana. May not the great Bliss in his sumptuous sanctum sneer a most annihilating sneer should he read this article, forgetting "the wondrous magical destroyer of scirrhus in any stage—Condurango"—may he not also forget that some humbler brother may speak a word in favor of the greatest and most efficacious nervine in existence without being designated by him (and others of his ilk) "ah, he, ah!—an empeeric sir—a-ah-aw—quaaack, sir, egad!" Oh, dear! shades of Paracelsus and all the other disembodied quacks of centuries ago, come to my aid and clap your spiritual hands over the mouths of my critics. I have tested damiana thoroughly, and although it is a new remedy, and not to be found in Wood & Bache, and not endorsed by the savants of my old alma mater, Edinboro, or by the savants of London, Dublin or Paris, it is superlatively the ultima thule in the great, long and laborious voyage in search of the strengthening Hercules of the great ganglionic centres. And now to prove its efficacy: A year or so ago I was suffering from incipient paresis. Like Dean Swift, I felt myself "withering at the top like a blasted pine tree." Over-study, writing for the press, mollifying duns and struggling against the cold wave of poverty, weakened the delicate organs of the brain. Insomnia, melancholy, hypochondriasis and all the other foul fiends that attack the weakened organs were my daily and nightly antagonists, and I very nearly succumbed to them, and was sighing for

"A lodge in some vast wilderness,
A boundless contiguity of shade,"

when in poring over Messrs. Parke, Davis & Co.'s circular of "New Remedies," I came across damiana. I tried it, and—well, its effects (one pint bottle) were wonderful. My mind resumed its normal functions, and to-day my brain force is as strong and capable of (even undue) taxation, as it was during the oft regretted years, a little prior to adolescentia. Of course, obeying the injunctions of my Hippocratic oath, it was my duty as a humanitarian to promulgate the virtues of the drug whenever I saw a necessity for its exhibition. For some time I met with indifferent success. "Old Proprietary," with his florid advertising, his elaborate bottle, printing, and his eye-charming "trade-marks," over-rode and triumphantly discomfitted me, but I am one of those who think that

"In life's earnest battle, those only prevail
Who boldly strike onward, and never say fail."

I persevered, and to-day I have on my list ten enthusiastic admirers of damiana. Why? Simply because it restored them to the full enjoyment (as in my case) of their brain force. They are no "almanac myths" either, but bona fide gentlemen of high reputation for truth and veracity—gentlemen who would not lie even for money.

As I am trespassing probably too much on your space, it will, I think, be only necessary to mention the name and send the testimony of one. I can, if requested, also give the names and residences of the others. From my visiting list I, therefore, copy the following report:

"*Damiana—Case* 10, *in Test.*—Prof. H. Blomgren, University of Mississippi. Found Prof. Blomgren in a very exhausted condition; the vital forces weak from over-taxation in business. He writes frequently until two or three in the morning. Pulse feeble; habit languid; anæmic, and at times melancholic. Of fine physical form, and all the life organs healthy. Complains of weariness and lassitude at times. Attributes his condition to phthisis pulmonalis. Diagnosed lungs perfectly sound; no valvular disease; liver and kidneys normal; brain weakened from overwork, and sympathetic reflex action from stomach weakened by over-dosing for years with quack nostrums known as proprietary medicines. Regulated stomachic troubles and prescribed damiana."

I herein attach a note from Prof. Blomgren, which attests the efficacy of damiana in his case, and if it shall assist any other sufferer from loss of nerve force, I shall indeed be most truly glad.

"Oxford, Miss., January 4, 1883.
University of Mississippi.

Dr. Fahy:—In compliance with your request in regard to the therapeutic effect of damiana on myself, I have this to say: I have for several years spent a large amount of money on proprietary medicines, but not one of them all has had anything approaching the salutary effects of the bottle of damiana and the damiana pills sent to me by your order from Parke, Davis & Co., Detroit, Mich. So pleased was I with the effects of the fluid extract that I have ordered another bottle and shall continue taking it through the year. I am candidly of the belief that as a nervine it has not its equal.

H. Blomgren."

## Poisoning by Damiana—Recovery.

By W. H. Bentley, M. D., LL. D., Valley Oak, Ky.

MINE is a country place, eleven miles from Somerset, the nearest situation of drug stores. The consequence is, I am compelled to keep most drugs used in my practice and to dispense them as well. My office, with its mortars, graduates, pill machine, glass-stopped tincture bottles, salt-mouth jars, etc., resembles a drug store on a small scale. I frequently come home, prepare prescriptions, label packages with directions, etc., and leave them to be handed out by my little son. He reads manuscript very well, and knows the general nature of most of the drugs, but is never entrusted with the preparation of any prescription, no matter how simple. In my office, I had a square quart bottle that had been used for some years to contain apple brandy, and it was labeled accordingly.

About the first of September, 1882, I prescribed a pound of the fluid extract damiana for a man who had been a "regular brandy drinker" for quite a number of years. The damiana was so offensive to the patient, both in smell and taste, that he could not retain it on his stomach after taking, and so he returned the medicine, having used but a few doses. Knowing his habits, I thought I would disguise the damiana with apple brandy, a plan which I found to succeed admirably. I accordingly emptied the damiana into the above-named brandy bottle, filling it up with apple brandy and noting the fact with a pencil on the lower margin of the label. I thus left it until the patient might call for it.

Two days after, and before the medicine had been taken away, a protracted meeting was commenced at the Valley Oak church. It was at the height of the apple brandy making season. As usual, the meeting was attended by a good many "drunken roughs," among whom was a young man that I shall call Jack, his first and familiar name. He was then 26 years old, always in good health, 5 feet 10 inches tall in his socks, heavily muscled, weighing 180 pounds, and not corpulent. His eyes are gray, complexion light, and hair auburn. He is a man of considerable intelligence and has read history and poetry extensively. He is a man of good social standing, but addicted to sprees, in which he is rather unmanageable. I make these last statements, as they may tend to throw some light on the sequel.

When Jack arrived he was intoxicated and without liquor. Finding the office open, and only a 12-year-old boy in charge, he decided to enter in search of "something stronger than water," as he put it. Going behind the counter, he soon found the mixture of damiana and brandy, which his olfactories told him was "brandy" alone. In vain the boy cautioned him and pointed to the remark on the label. Jack seized an eight ounce graduate, and, filling the glass to the brim, drank it all at once. He then strode off to the church and threw himself upon the grass near the door. It was early in the day, and the people had not all convened. He was closely followed by the boy, who reported the facts, expressing his apprehensions, and begging for some one to follow me in my morning rounds and bring me back. In less than half an hour after taking the liquid, Jack was seized with tetanic convulsions. At first, they were short, lasting from one to two minutes, and separated by intervals of twenty to twenty-five minutes.

While he was in the second convulsion, I returned, and learning the facts, had him carried and placed on a bed in a back-room of the office.

Immediately after his deposition on the bed, he had a severe convulsion, lasting him four minutes. During this he was opisthotonously convulsed to such an extent that only his occiput and heels touched the bed. As soon as practicable I administered chloroform by inhalation, which seemed in subsequent convulsions to materially shorten their duration. Throughout the case and during the convulsions the organs of respiration seemed to be constricted, but during the intervals, intellect, respiration and deglutition appeared normal.

As soon as the last mentioned paroxysm ceased I triturated together a scruple of camphor and tannin and gave him one-fourth. This dose I repeated after each convulsion until all was taken.

His paroxysms increased in frequency and violence, but, under the chloroform, decreased in length of duration.

In some respects his case resembled one of hydrophobia, as the least movement or "fanning of the air" would bring on paroxysm.

Half an hour after his coming into the office I concluded to resort to electricity. I had a Kidder's battery made ready, his feet with negative pole placed in a vessel of warm water. Used secondary current along spine from base of skull. After a time I treated him through stomach and bowels with the "A. D." current. This appeared to exert the first curative action. I do really believe this exerted the first curative influence. I think it actually neutralized the poison, or in some way annihilated it.

In many respects there was great resemblance to the toxic symptoms of nux vomica. There was, however, no complaint of weariness, no stiffness of limbs, during the absence of convulsions, but at these times his awful dread of impending death was distressing. There was but little thirst, and, except during a paroxysm, but slight disturbance of the pulse.

At the end of two hours and forty minutes from the time I commenced treatment the case began to improve and at the end of four hours the patient had so far recovered as to be able, with a little assistance, to go to my dwelling (about a hundred paces) and take some nourishment. After this there were no untoward symptoms, but there was marked and emphatic want of power to coördinate his gait in walking. This gradually improved and since he has enjoyed his usual good health.

He says that during the time he had frequent visions of heaven and hell. That he could see the "white throne" of the former and the "lurid flames" of the latter, while the hosts of each contended for the possession of his person. He frequently felt as if stabbed in the back with a pitch-fork.

He had but recently read Milton's Paradise Lost and Paradise Regained and Dante's Inferno, which, I suppose, accounts for these erratic visions.

## Kolpoperineoplasty.

By Wm. Fahy, M. D., Oxford, Miss.

I HAVE read with much interest the various articles in the Gazette termed, "What is the matter with our Emmenagogues." I repeat, with in-

terest, for aught that can relieve the female sex of the many ailments she is subjected to from her peculiar conformation, must indeed enlist the sympathies of the physician who has studied well his "humanities." Now of all the sufferings which is her heritage, I class prolapsus uteri as the very worst, and the most unskillfully treated. She is tormented with irritating pessaries. She is daily tortured with rough, and unskilled digital examinations. She is drugged with abominable mixtures under the taking titles of "Catholicons" and "English Female Bitters," (why not Irish, Scotch or Welsh, eh?) until finally she sinks to the grave the victim of unprincipled, and mercenary charlatans.

I do not wish to be understood that in some cases a properly constructed pessary, skillfully applied and diligently watched may not effect a cure in this painful complaint, neither do I presume to say that no medicament is available in uterine disorders, for many of my brethern, wiser than myself, claim that there is, but I do claim that when the operation can be performed, kolpoperineoplasty is more certain in its results, and completely does away with all the aforementioned devices of the devil who still takes a delight in punishing the daughters of Eve, even as he delighted in the painful downfall of the mother. And now my prelude ended, I will enter on my subject proper. Kolpoperineorrhaphy is by no means a new method of treating prolapsus. Hippocrates mentions it distinctly, and Paracelsus (tho' somewhat of a visionary or having a slight tendency to charlatanism) vaguely alludes to it. It is, and has been a common operation at St. Stephen's Hospital, Dublin, and at Guy's, and St. Bartholomew's, London. Why is it not practiced and "written up" by our American surgeons and physicians, is to me a mystery; surely so simple an operation, despite its boa constrictor name, should receive more attention at their hands. I will now refer to one of my cases, the fifteenth I have performed in 22 years.

Case 15, St. Louis, Mo. Mrs. E. L., æt. 25, native of Dublin, Ireland, five years in America. Her parents were fishers by occupation at Ring's End, and Irish Town, near Dublin. During her girlhood and for two years after marriage she aided in drawing the "herring net," a laborious and straining occupation for a strong man, much more so for a woman. Felt nothing wrong until after her arrival in St. Louis, where her first child was born. Three months after childbirth she came to my office, stating that her womb was down; examined and found complete procidentia, also rupture of the perineum. On questioning, she related her previous history, and stated that she was delivered by a negro midwife. Further questioning evolved the story that the negress had forced the child by pressing hard downwards on her belly (massage). I replaced the womb, and in doing so discovered a gangrenous spot on vulva, and a rectocele as large as a Spanish walnut. I held the womb in place by a pessary of my own invention, and told the woman to go to the Sisters' Hospital, as that was the best place for one in her condition. Two weeks afterwards she again called at my office, and I found that the uterine cavity measured 13.2 centimetres and that a viscid-looking ulcer was located on the posterior commissure—this (mea culpa) I attributed to my pessary, which, Deo gratia, I had not "patented." I removed pessary, called a cab, and had the woman carried to her humble residence on Biddle street, where, with the consent of her husband and mother, I performed the operation of kolpoperineoplasty. Under the circumstances, I first performed anterior elytrorrhaphy, excising a pear-shaped piece of mucous membrane 3x5 centimetres. She did very well—a slight diarrhœa and a little bleeding from the vagina; the stitches held well, and about three weeks afterwards I made kolpoperineorrhaphy. Now, I was rather doubtful in this case of a healthy flap; nevertheless I performed the operation on Simon Hegar's method. To get a flap well supplied with blood-vessels I first denuded; I then excised a triangular piece of mucous membrane 12 centimetres in length and 9 centimetres at its base, including the healed ulcer (in healing ulcer I used boracic acid and glycerine). There was some fever and the wound failed to heal by first intention, but I was in no wise discouraged; I used freely a spray of pyroligneous acid very much diluted in distilled water, and the second intention was all that could be wished. On the twenty-second day I removed the stitches. There was no more prolapsus (at least while under my observation—5 years), and the vagina (of course in a measure constricted) stood perfectly firm, and I have no doubt is so to this day.

Now, here is a case for study and due reflection. Was it not better to perform this comparatively simple operation in view of a total cure, than to torment the poor creature for months, mayhap years, with very doubtful pessaries, and still more doubtful "uterine strengtheners"—are there such? I would be pleased to hear from my professional brethren on this operation and their success with it.

## "What is Wrong with Our Emmenagogues?"

By George F. Hunter, M. D., Holly, Mich.

DR. CHAS. MILLER, in the September number of the Gazette, asks this question. In making use of the remedies known as emmenagogues we must first ascertain as nearly as possible the pathological condition of the uterine organs at the time we prescribe. As amenorrhœa may depend on a variety of causes, it is, of course, necessary to first ascertain the pathological condition present in the case under treatment and then prescribe the remedy in accordance with this condition. It does not do to treat amenorrhœa "on general principles," nor to treat all cases alike. Remember amenorrhœa is a name that covers up a great many conditions that have the effect of causing a non-appearance of the menses. These different conditions require, and absolutely demand, different forms of treatment. The remedies used should be singled out to meet each condition, and until this is done success cannot be expected to follow our efforts. If our patients call on us for help we must satisfy them. The busy practitioner must be "posted" and have his remedies at hand. If the amenorrhœa depends upon plethora of the uterine organs, ergot is probably the best remedy, as:

℞ Liquor ergotæ purif., ʒ vj.
Tr. gelsem., ʒ j.
Tr. aconiti rad., gtt. xvj.

M. Sig. Half to a teaspoonful every two, three or six hours.

If dependent upon inertia or deficient activity of the sexual system accompanied by general atony, the best remedy is sabina, which is improved by combination, as:

℞ Tr. sabinæ, ʒ jv.
Tr. cantharidis, ʒ ss.
Ext. macrotys rac. fluidi., ʒ jv.

M. Sig. Fifteen to twenty drops three to six times a day.

The savin must be a reliable preparation made from the fresh tops.

If dependent upon suppression from "catching cold," give

℞ Tr. aconiti rad., ʒ j.
Tr. pulsatillæ, ʒ vij.

M. Sig. Ten drops three to six times a day.

When medicine is required these are reliable when prescribed for the pathological condition which indicates them. As a rule, commence their administration about from one to three days before expected molimen menstrualis. Of course this treatment assumes the existence of the uterine organs and refers to cases where there are no mechanical obstructions. If these obstructions exist the case must pass essentially from under the domain of medicine to that of surgery.

The system, if run down or faulty, should be improved in the interval between menses. Hygienic measures should receive due attention—hip baths, etc. If dependent upon anæmia give iron as the remedy between the periods, and its value is enhanced by arsenic, as:

℞ Tr. ferri chlor., ʒ vij.
Liq. potassæ arsenitis, ʒ j.

M. Sig. Eight to fifteen drops in a teaspoonful of glycerine or syrup.

In these disordered conditions ovulation does not take place, the ovum is not permitted to mature and be expelled, as the function of the uterine organs is impeded or interfered with in such a way as to prevent the expulsion of the ovum from the ovary and the sanguineous fluid from the uterus.

I fully concur with Dr. C. Barlow, in the last number of the GAZETTE, that normal menstruation does not occur except in connection with ovulation, but great relief often follows the flow at natural time even if unaccompanied with ovum, by relieving the system of its monthly surplus of fluid. And we can remove the barrier to ovulation by treating the pathological condition that interferes with nature's work and by stimulating the vitality of the uterine organs, or treating the system wherever the defect may be, if such defect is amenable to treatment.

## Reports on New Remedies.

### From Private Practice.

### Manaca, Boldo, Jamaica Dogwood, Lippia Mexicana, Chlor-Anodyne.

By ALBAN S. PAYNE, M. D.,* MARKHAM, Va.

MANACA (*Franciscea uniflora*).—The 12th day of May, 1881, I received a letter from Mrs. I. E. G., of Pennsylvania, saying that her sister, æt. 27, had a very severe attack of inflammatory rheumatism, with swelling of the joints; that her physicians were of the opinion that she would become bed-ridden; and "that knowing I had for many years been her father's family physician, she wished me to send a prescription for her sister." Knowing from experience that some of this young lady's ancestors had suffered from the gout, my first prescription was;

℞ Potassii iodidi, ʒ ij.
Vini colchici seminis, ʒ ss.
Aquæ puræ, ʒ vj.

M. S. Teaspoonful t. i. d. In connection with this to take five drops of fluid extract manaca (P., D. & Co.'s) t. i. d., gradually increased to eight drops t. i. d.

In a much shorter time than I had hoped for, she reported herself cured, and she gave all the credit of the cure to the manaca.

Mrs. Nancy W., æt. 32, mother of eight children; a woman of fine physique, and very handsome. Have been her family physician for the last fourteen years. Treated her ten years ago for secondary syphilis contracted from her husband. April 11, 1881, she complained for the first time of pharyngeal sore throat, pain in her arms and legs, which was worse in the evening. A slight syphilitic eruption appeared over the left malar bone. Cauterized her throat with argenti nitras, 30 grs. to the ounce, and ordered chlorate potas., ʒ ij, to water, 8 ounces, as a gargle. Gave internally manaca fluid extract, 5 drops t. i. d. From that date to this, Jan. 8, 1883, she has appeared to be perfectly well.

My old and greatly revered preceptor, Prof. Willard Parker, M. D., Emeritus Professor of Surgery, College of Physicians and Surgeons, New York, lays it down as a rule, that if a patient comes to him with pain in the shaft of the bones, worse from about 3 to 4 P. M., be he publican or be he bishop, he would say that he had syphilis. If he proved he had not, then he would contend that his father had, and if his father could prove he never had, then he would insist that his grandfather had. From long and large experience in treating syphilitic diseases, I fully concur in the above opinion of Professor Parker. To my mind it is conclusive evidence of a syphilitic taint, and very often transmitted from parent to their offspring.

Was consulted Jan. 11, 1882, by a man, 65 years of age, who, four months previously, had been thrown from a carriage and had both legs broken about the upper third of the tibias. Bone had not yet commenced to unite, and there was much suffering from rheumatic pains in the joints. Prescribed:

℞ Potassii iodidi, ʒ ij.
Vini colchici seminis, ʒ jv.
Syr. zingiberis.
Aquæ puræ, ℥ ʒ iij.

M. S. Teaspoonful t. i. d., half hour before each meal, to be quickly followed by fluid extract manaca, five drops. Two months from that time I met him on horseback in the road. Here is the fact, let some one else give the explanation.

I have prescribed the fluid extract manaca in at least twenty-five cases of uncomplicated articular rheumatism, and in a great many cases of subacute and chronic rheumatism, with uniform success. I am sure it is also a remedy of great value in secondary and tertiary syphilis. I have never derived any satisfactory benefit from the exhibition of the salicylic acid in acute rheumatism.

*Boldo* (*Peumus Boldo*).—I regard the fluid extract boldo as an exceedingly valuable remedial agent in

* Late Professor of The Theory and Practice of Medicine in the Southern Medical College, Atlanta, Georgia; member American Medical Association; Hon. Fellow Virginia State Medical Society, etc.

catarrh of the bladder, gonorrhœa, gout, and in irritation and inflammation of the prostate.

I was called, July 2, 1882, to see Miss P. Q., æt. 25. She had been suffering from metritis and urethritis for nine months, and had been treated in San Francisco, in New York, and in Washington; has received very little encouragement from any of her medical attendants, is very despondent and fears she will be an invalid for life. I made the following prescription for this young and interesting lady, after giving her a very encouraging prognosis in her case: Inject, per vaginam, one gallon of water as hot as can be borne every night at bedtime. Take five drops fluid extract boldo t. i. d. On the 14th day of August, 1882, greatly to her surprise and joy, and greatly to the surprise of her numerous and anxious friends, she was able to start on a trip of 3,000 miles, and by letter she informs me she stood the trip well and is enjoying herself greatly.

C. W. F. called to see me the 12th day of April, 1881; has been under treatment for gonorrhœa for the last nine months; has been under several different physicians. Constitution had been very robust; 24 years of age and a hard working man. He complains of a stinging pain in the head of the penis and an uneasy feeling over the region of the spermatic cord; discharge very trifling; right testicle slightly swollen; feels weak and trembles on the least exertion; perspires easily. Is in the habit of squeezing the head of his penis every morning to see if there is any discharge.

Ordered a nicely fitting suspensory bandage, gave instructions to quit his attempt to squeeze out discharge and prescribed five drops of fluid ext. boldo three times a day. I received a letter from him May 1st, 1881, saying: "Your prescription has done the work. I feel entirely relieved."

These badly treated, often over-treated cases of gonorrhœa, are very harrassing to the physician, and he dislikes to see such a case come to his office. The effect of boldo is to give tone and strength to the parts and is greatly to be preferred to the nauseous doses of copaiba, cubebs, etc., with which the stomach is usually overloaded and disturbed.

*Jamaica Dogwood* (*Piscidia Erythrina.*)—I have found this drug to be an excellent substitute for opium, especially in those who from some idiosyncrasy do not bear this drug.

March 3d, 1882, I was sent for to see Mrs. Q. She was a stranger to me. She was about 50 years of age; mother of one child 14 years of age, strongly marked nervo-bilious temperament. I learned from her husband that she could not take any of the preparations of opium. Her pulse was very frequent; scarcely perceptible at the wrist. She is wild and unmanageable, and indeed her every appearance indicated either death or a lunatic asylum. Had she been tolerant of morphine I should have given her 30 grs. of quinine combined with a liberal dose of morphia. As it was I determined to remain with her until the next day and rely solely on the Jamaica dogwood. At 4 o'clock P. M. I succeeded in giving her one-and-a-half drachm of the fluid extract. In a half hour she was more quiet, pulse fuller and slower, surface not so cold and she more rational. At 5:30 P. M. I gave another drachm. Improvement was gradual and at 7:30 P. M. I gave one-and-a-half drachm more. At 8 P. M. she fell to sleep and slept until 8 o'clock the next morning. She awoke free of pain and quite rational. At 9 A. M. she had a full free evacuation from the bowels. I prescribed at bedtime next night one-and-a-half drachm of the fluid extract Jamaica dogwood, and, if necessary, her bowels to be kept open with a teaspoonful of Carlsbad salts in a glass of cold water to be drunk before breakfast every morning. She had no further trouble.

On the 7th day of May I was again called to see Mrs. Q. I found her threatened with another attack similar to that above noted. I gave her one-and-a-half drachm of the fluid extractat bedtime. She went to sleep in half an hour and passed a pleasant night and awoke next morning entirely relieved. She has removed from my county and so far as I know she has had no return since.

I have been particularly struck with the quietness of patients when under the influence of this drug; their breathing is, as a rule, as soft and quiet as an infant's. I regard it as a valuable remedy in mania, in neuralgia of the branches of the fifth pair of nerves. In many cases of delirium tremens it also meets every indication of cure.

*Lippia Mexicana.*—On my return from Georgia I found that the previous winter, of 1880, had been an exceptionally severe one. Some three feet of snow had lain for several months covering the ground, and this being a great grazing country, many young men exposed in feeding cattle contracted pneumonia, and lacking proper care, a number of cases of what is popularly known as "galloping consumption" followed. On my return from Atlanta it fell to me to treat a considerable number of this class of cases. I gave the lippia Mexicana a thorough trial with a view to relieving the distressing cough in these cases, but I must confess, with poor success.

*Chlor-Anodyne.*—This is pleasant to take and I have found it to be very efficient in its remedial virtues in diarrhœa, cholera morbus and cholera infantum. The ordinary dose of 20 to 30 drops taken on the first appearance of pain in the bowels or diarrhœa will rarely fail to cut short an attack. It seems to me to be one of those preparations that a traveler should never be without.

## Jamaica Dogwood, Viburnum Prunifolium, Berberis Aquifolium, Cascara Sagrada, etc.

By Wm. A. Caveness, M. D., Jacksonville, Texas.

JAMAICA DOGWOOD acts admirably in some cases, but will not do to rely upon to the exclusion of the opiates, hydrate chloral, etc.

Having used viburnum prunifolium successfully in cases of females, I was induced to try it in a case of irritation of neck of bladder, in a male. The case had given me some trouble—several other remedies had been used—and no relief was experienced until this remedy was taken. In this case it produced the desired effect.

Tried, without success, grindelia squarrosa in a case of "chronic chills," with enlarged spleen.

More experience with berberis aquifolium and cascara sagrada increases the already favorable opinion of them. If you have a blotched or sallow-faced female patient, suffering from constipation, and needing toning up generally, by all means try these remedies combined. If anæmic, at same time, give iron; and if a nerve tonic is indicated, and it generally is, prescribe damiana. In from three to six weeks you

will be almost surprised at the fair skin and improvement generally.

Yerba santa is a fine stimulating expectorant—very useful in many cases of bronchial troubles.

The purified liquor of ergot of Parke, Davis & Co., is all they claim for it. Its uniform strength, smallness of dose, and certainty of action should commend it to all physicians.

Further experience with the concentrated tinct. lippia Mexicana and grindelia robusta has confirmed my formerly expressed high opinion of these remedies. When first taken, the grindelia robusta, in doses of 3 grs. of extract, say, every four hours, produces head symptoms somewhat analagous to those of belladonna. If long continued, same doses thrice daily will produce unsteadiness of legs. In administering it, its constipating quality must be remembered.

Have found glycerated dialyzed iron both elegant and efficient.

While damiana has proven an excellent nerve tonic, have failed to discover that it acts any more as an aphrodisiac than nux vomica or iron.

The extract of malt and the emulsion of cod liver oil with hypophosphites are two valuable remedies, and am glad to know legitimate pharmacy has taken hold of them. In many cases it seems these remedies are indispensable.

If fluid extract gelsemium be given with morphia, the unpleasant effects of the latter will be mitigated. These, with hydrate chloral and quinine, are the best remedies I have found for neuralgia. Perhaps it should be added, that nearly all the neuralgia we have is of malarial origin.

*Query:* Will some one give his views, through the GAZETTE, as to whether iod. patass. if long continued will produce bad effects on the kidneys? I am under the impression that it will. Believe it has been too recklessly used for many years.

### Cascara Sagrada, Berberis Aquifolium, Coca.

BY ALFRED FLIESBURG, M. D., NORTH BRANCH, MINN.

CASCARA SAGRADA (*Rhamnus Purshiana*).—Being a Scandinavian by birth and education, the genus Rhamnus was enough to recommend this drug to me for trial, inasmuch, as you probably know, the Rhamnus trangula is extensively used in all the North European countries "as an aperient, laxative and cathartic," but being at the time unable to find any reliable product of this drug in the place where I resided, I concluded I would try the California rhamnus (Purshiana) and see if this would not answer my purpose. I am glad to confess that at first I was surprised, as it did not only answer, but excelled the frangula in every respect, for all the above-mentioned purposes. I have since then (about five or six years ago) used the cascara sagrada extensively, especially for habitual constipation, and in dyspepsia, piles (blind and bleeding), and, in fact, whenever an aperient or laxative was needed. I use it in preference to any other remedy in all female cases and for children. My favorite formula runs thus:

℞ Ext. rhamnus purshianæ, fl. ʒ j.
Ext. nucis vomicæ, fl., ʒ jss or ʒ ij.
Ext. belladonnæ, fl., ʒ j or ʒ jss.
Glycerinæ purificati, q. s., ad ʒ ij.

Sig.—Teaspoonful at night before going to bed.

I have yet to record a single case where this formula has failed me. In children I generally combine it with some aromatic, like cascara cordial or tr. cardam. co. and syr. I think that this drug cannot be too highly extolled.

*Berberis Aquifolium.*—I like this drug very much and employ it quite extensively. I think it far superior as an alterative to any other drug in all our materia medica. I have found it useful in "scrofula," ulcus cruris, eczema, erysipetalous sore leg, impetigo, etc. In one word, when any alterative is needed, I use it and find it of good service. I will in the future relate some specific cases. In syphilis and scrofula, etc., I combine it with iodide of potassium.

*Coca.*—I have used this drug in a few instances of nervous prostration and debility, and in some of those it has done splendid service.

I will at some future time relate my experience with a few other of the recent valuable additions to our materia medica, and will refer especially to kava kava, yerba santa, eucalyptus and viburnum prunifolium.

## Translations.

### Blennorrhagia in the Female and its Treatment with Oxygenated Water.

The usual seats of gonorrhœa are the vulva, vagina, urethra and the contiguous glands. The neck of the uterus is rarely involved. Perimetritis cannot be here spoken of. Rheumatism is an absolute proof of the specificity of an urethral discharge in both sexes. Several articulations are generally attacked at one and the same time, and the endo- and pericardium may be likewise affected. Frequently vulvo-vaginitis is the result of the infection. This heals rapidly as there are no glands involved. Next follows the urethritis, which is generally cured up in one to two weeks, but may remain for years, and as long as the secretion is like pus it is contagious. This secretion is the product of desquamation of the mucous membrane, and not of glands. The period of the urethritis is dependent on the affection of the intra-urethral glands. Infection of the corpus uteri is rare; more frequent that of the collum, which is always very obstinate, owing to the participation of the many neighboring glands in the affection. Erosions on the portio vaginalis produce a purulent discharge, are superficial and bleed readily In short the gravity of the affection depends on what manner of epithelium is attacked—cylinder epithelium and glandular regions often withstanding all treatment.

The author is an advocate of the parasitic origin of the disease, and recommends water containing oxygen (eau oxygenée) in one per cent, solution. The solution must be almost neutral. In kolpitis he prescribes irrigations with pure ozone water, or orders tampons. In urethritis injections, 1:4 of the same solution are given. When the neck of the uterus is affected, irrigations are made by means of a long nozzle with the same solution, 1:4.—*Annals de Gynecol., No.* 9, 1882, *de Société.*

### Hypermanganate of Potassium in the Treatment of Snake Bites.

The experiments here noted produced results similar to those of Richards (Lancet, September, 1882), and de Lacerda. Richards experimented with the poison of

cobra, while de Lacerda employed that of bothrops in his investigations. In general, it was demonstrated that a solution of hypermanganate of potassium injected subcutaneously at the same point and not later than four minutes following the injection of the poison, would neutralize the poison. The potassium solution must come in contact with the poison, for should the former be injected at some remote point, the poison is in no way affected—that is, hypermanganate of potassium is not properly an antagonistic substance. When the poison has already developed general symptoms, the potassium salt remains without any influence. In case a ligature be placed above the wound produced by the snake the hypermanganate solution is effective after a much longer period. In one well observed instance the injection of the salt proved itself efficacious after 25 minutes. A five per cent. solution—two to three drachms each injection—is used by the author, and found sufficient to paralyzed the poison inserted by the cobra. The ligature must not be removed until several minutes have elapsed after the injection of the salt.—*Berlin. Klin. Wochenschr.*, No. 52, 1882.

### Action of Salicylic Acid on the Circulation.

Most authors ascribe a depressing effect on the heart to salicylic acid, others disagree, but are uncertain as to its action. In the interest of therapeutics the following experiments were made:

The first group of experiments is concerning patients, to whom salicylic acid was administered for several days. The pulse curve was taken before, during and after its use morning and evening.

The second embraces persons, in whom the arterial pressure was measured before and after the administration of a single dose of five grams.

In every instance the pulse mounts up in about one hour after the acid is taken, reaches the maximum in from two to three hours, and begins to fall in three to five hours.

Therefore according to these experiments any depressing action of salicylic acid on the heart must be excluded.—*Centralblatt für die Med. Wissenschaft*, No. 48, 1883, Dr. Ed. Maragliano.

### Treatment of Puerperal Sepsis.

Too lavish irrigation of the uterine cavity is to be avoided. In Prague the mortality in 1879 was: 0.4 p. c.; 1880, 1.0 p. c.; 1881, 0.21 p. c.: 1882, 0. p. c. The mortality of 1880 was ascribed in a great degree to the profuse intra-uterine irrigations. More, by far, can be accomplished by strict attention to the ulcers on the genitals, as the infection in most all cases goes out from them. As a wash for the vagina hypermanganate of potassium, or tincture of iodine may be be used with good results. After this has been tried and avails nothing, then it is time to proceed to irrigation of the uterine cavity with a five per cent. phenol solution. Permanent or repeated irrigation is not only useless but dangerous; a single thorough toilette of the cavity is all sufficient. Many interesting cases illustrate the text.—*Arch. f. Gyn.*, xx. p. 1, W. Fischel.

### Toxic Effects Produced by Atropia in the Ear.

Knapp had in treatment a lady 25 years old in whose ear he dropped a few drops of a one-half per cent. solution of atropia. The otalgia ceased, but unmistakable toxic symptoms soon appeared; four hours after the application of the atropia "the hands and feet began to swell, the face became scarlet, the eyes puffed, the tongue thick and the throat extremely dry, the under lip hung down, the heart palpitated and the patient complained of great heat." These symptoms lasted for several hours and then disappeared entirely. A weaker solution afterwards applied to the ear had no disagreeable effect. The resorptjon must have taken place through the glands as there was not the slightest excoriation in the ear. —*Zeitschr. f. Ohrenheilk.*, xi., p. 292. Knapp.

### Treatment of Placenta Previa.

Supported by an experience of forty-six cases of placenta previa, Hofmeier advocates early interference. As soon as pains begin to resort to version, according to the method of Braxton Hicks, and not lose time with the tampon, which latter does not always stop the hemorrhage and further increases the danger of infection. In case of placenta previa centralis, where the cervix still remains and the os externum is narrow, the author advises, in the event of profuse hemorrhage, the perforation of the placenta and an attempt at delivery on one foot. During extraction, which must necessarily be very slow, ergot is administered. Post partum, the uterus must be washed out with a five per cent. solution acid. carbol. His results are good. In forty-six cases he counts only five deaths.—*Zeitschr. f. Geo. and Gyn.*, viii., p. 89. M. Hofmeier.

### Kern's Cataplasms.

In the session of October 22, 1882, of the Berlin Medical Society, Drs. Senator and Schlesinger advocated sapo viridis in the form recommended by Kern and Bush for peritonitis and inflammation of the glands.

The formula and manner of application of these catoplasms is as follows: Powdered mustard and sapo viridis are mixed in the proportion of 1:4 (or 5) and spread between two layers of muslin and applied for six, eight or ten hours. In the case of lymphosarcoma, for instance, these cataplasms are to be repeated daily for weeks.

Senator reported numerous cases of peritonitis and perforations treated successfully with the sapo viridis alone, and Schlesinger related at length the successful treatment of various glandular swellings with the cataplasms of mustard and sapoviridis.—*Berlin Klin. Wochenschrift*, No. 47, 1882.

### Modification of Esmarch's Bandage.

Instead of the rubber bandage used by Esmarch, a stout rubber ring may be used, beginning at the end of the extremity on which the operation is to be performed and adjusting it by rolling it in place, and leaving it to remain where otherwise the rubber band is corded around the extremity.—*Berlin. Med. Wochenschrift*, No. 13, 1882, J. Vzyalorrski.

### Erythrophleine.

Erythrophleine is the active ingredient of sassy bark. Its action is similar to digitalis with the picrotoxin action added. One milligramme injected into the blood of the rabbit produces marked effects of digitalis.—*Arch. f. exp. Pathol.*, xv., p. 403, Hornack and Zabrocki.

# Correspondence.

## Quackery and Quacks; Emmenagogues.

I have never been more charmed than by an article by Dr. Chas. H. Miller, of Peabody, Kansas. It is pregnant with truth as sacred almost as if from an inspired pen. The picture drawn is a true portrayal of the quack and his family.

No professional gentleman of any experience lives who has not seen the antetype of this truly diabolical creature. It is, unfortunately, unprofessional for medical subjects to be published in the daily secular press, but a case of this kind should certainly have fair ventilation in the journals of the country, so that quacks could see themselves as others see them, and also that the patrons of this despicable professional monstrosity could judge for themselves. This fellow, although taking a half dozen medical journals, never cuts the leaves of them—comforts himself with the satisfactory reflection that the outside world does not detect his hypocrisy.

There is no hope of ever ousting this leech. If anything is said against him, the parent of the remark is considered jealous, and the quack will prejudice the minds of the people by stating: "Oh, they are only provoked with me because I will not join a party who wish to make exorbitant charges. I don't want all that a man makes." And while professional gentlemen have a "fee bill," he will charge probably the same, and when the day for a settlement arrives, he deducts ¼ of his "bill," claiming that charity is the governing principle of his existence. I have come in contact with two of these gentry in a practice of over twenty years: one who would go to see a patient of mine, apologize to me for it, as he did not know it, and still retain the place; then another who agreed for $5 to cure a case, eight miles from him, paying it several visits, because I had the case and he knew it. They are two gentlemen whom I shall never degrade myself by consulting with, nor honor them by so doing.

I see articles upon the subject of emmenagogues, and will simply state, that since using the "aletris farinosa," I have dropped all of the formidable array of emmenagogues classed as such. It is strictly a uterine tonic, quieting the womb that is making effort to abort, and at the same time producing the menstrua when deficient, irregular and scanty. I have had several cases representing the form above, all of which were entirely relieved, and where the menses were deficient or scanty and irregular, not only producing perfect functional action, but in two or three causing the parties to become pregnant, and the healthy mother of the child with all untoward previous symptoms disappearing. So that after the period of lactation had ceased, the uterus would resume without further treatment of its normal functions. Aletris farinosa is as much a specific for these troubles as quinine and its preparations are for chills and fever; surer, because I have failed with the latter—never with the former.

I do not remember when my subscription to the GAZETTE expires, but wish you to send it and indicate by the red cross when it is out, and I will immediately respond. I realize more from it than all the other journals I have been taking combined.

D. P. DUNCAN, M. D.

TALLAHASSE, Fla.

[Translation of note addressed to Messrs. Parke, Davis & Co, by Prof. G. Dragendorff, Pharmaceutical Institute of the Imperial University, Dorpat, Russia.]

## In re Manaca and its Alkaloid.

The manaca which you sent me in the course of this summer, for experimentation, is now, under my directions, being subjected to a thorough chemical examination by Magister Lenardson. The same has so far resulted in showing that there is an alkaloid in manaca, the separation of which in perfect purity is attended with great difficulties, because of the fact that it cannot be isolated by shaking it out of aqueous solutions, and it cannot be isolated undecomposed by precipitation with potassio-mercuric iodide. We have, however, succeeded so far as to free it from foreign admixtures in such a measure, that with about one milligramme of the preparation, very energetic effects on frogs can be secured. These effects consist in: at first accelerated, later retarded respiration, followed still later by a gradual diminution of the activity of the heart. Before this symptom visibly appears, there is exhibited an uncommon excitement of the motility, and at the same time a gradual diminution of the sensibility. Some of the symptoms remind us of the picture of a poisoning with baryta.

While these observations make it appear plausible that manaca may be of service in rheumatism, attention must be called to the effects on respiration, which would ask for a very exact dosage.

The alkaloid mentioned is accompanied by a fluorescent body, which in its total relations resembles æsculin, but does not seem to participate in the effect.

I wish to add that on a previous occasion I received, under the name of manaca, a drug which possesses decidedly different external properties and apparently originated from a quite different mother-plant. As we have only a small sample of this latter variety of manaca, so-called, at our disposal, I could arrive at no positive conclusion as to its chemical constitution or its effects. All that I herewith communicate to you refers, therefore, only to the last larger quantity of manaca sent me from your house.

The detailed report of this examination will in time be laid before you, directly or indirectly.

DRAGENDORFF.

DORPAT, Russia.

## Convallaria Majalis.

The pharmaceutist Langlebert, upon critical consideration of the experiments of Drs. Rochefontaine and Hardy, has come to the conclusion that the best extract of convallaria majalis for therapeutic purposes is the aqueous one of flowers and stems together with the addition of ⅓ part by weight of the roots and leaves. The effect of large doses of the extract (aqueous, alcoholic or hydro-alcoholic) of the roots and leaves is emetic and cathartic. (Bull. gén. de Therap., vol. ciii). Prof. Sée, who values the convallaria above digitalis, prefers the aqueous extract from the whole plant, and gives it to his cardiac patients in doses of 0.5 to 1.5 and even 2 grams per diem. (Ibid., July 30)—Translated from Vratsch.

I beg to call your attention to the fact that the remedy has quickly excited the interest of the medical profession all over Europe.

R. D'ARY, M. D.

ROMEO, Mich.

# The Therapeutic Gazette

**WILLIAM BRODIE, M. D., Editor.**

ASSOCIATE EDITORS:

**J. J. MULHERON, M. D. and A. B. LYONS, M. D.**

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## U. S. Pharmacopœia of 1880.

II. FLUID EXTRACTS.

NO portion of our pharmacopœia stood more in need of careful revision than that relating to the fluid extracts. American physicians have been quick to see the advantages presented by these over all other galenical preparations, and manufacturers have vied with one another in improving their processes, until something approaching perfection has been reached. This advance has been so rapid that the ten years interval between the successive revisions of the pharmacopœia has sufficed more than once to render the officinal process obsolete long before improved ones could be substituted, and processes and formulæ have sometimes been hastily adopted which have not stood the test of practical experience. The formulæ of 1870, particularly, found little favor, and have never been generally adopted. The committee in 1880 received large discretionary powers with regard to fluid extracts. They were wisely left the option of making them by a volume standard, all other preparations being required to be made by weight. Wisely, too, they availed themselves of this liberty and so have retained for the convenience of prescribers a simple and constant relation between the volume of the fluid extract and the weight of the crude drug it represents. The beauty and simplicity of this relation would have been lost, at least to prescribers, had they decreed that these preparations, like all others of the pharmacopœia should hencefourth be made by weight.

A slight change in the actual relation of the fluid extract to the crude drug has been made. Formerly one minim of fluid extract represented one grain of drug, and for all practical purposes this ratio still exists, but in fact their strength has been reduced about five per cent., the exact correspondence now being between the commensurate units of the metric system, one fluid gram of the fluid extract now represents one gram of the drug. This surely leaves nothing to be desired for simplicity.

The old ratio was based upon the tacit assumption that a minim is equal to a grain, whereas these units are in fact in-commensurable. The change is fully shown in the following table:

| WEIGHT OF DRUG. | MEASURE OF FLUID EXTRACT. | |
|---|---|---|
| | U. S. P., 1870. | U. S. P. 1880. |
| 100 grams of drug make..... | 100 c. c. | 94.0 c. c. |
| 100 Troy ounces of drug make. | 100.3 fl. oz. | 100 fl. oz. |
| 100 Avoir. ounces of drug make. | 96 fl. oz. | 91.1 fl. oz. |

The process adopted by the pharmacopœia is still that of careful percolation, the first portion of percolate being reserved and the remainder evaporated to the consistency of a soft extract. The alternative process of repercolation is permitted, but is not described, although it is the only process which in small operations dispenses with the use of heat, and therefore is that which should have the preference.

The formulæ themselves show a great advance over those of the pharmacopœia of 1870. The indiscriminate use of glycerin has been abandoned, and the details of each individual process have been carefully worked out. It would be strange if there were not room for criticism, however, of some of the menstrua chosen, or of some of the specific instructions given. The use of tartaric acid in extracting aconite root, and of hydrochloric acid in the fluid extracts of conium, and especially of ergot, are considered by competent authorities to be errors of judgment, but in most instances it is evident that the formula has been adopted only after careful intelligent experiment, and that an attempt has been made to render each preparation as nearly as possible perfect. The number of officinal fluid extracts has been increased from 46 to 79, only two preparations being discarded from the former list. No other class of standard preparations shows so large an increase.

We have said that the fluid extract has been brought nearly to a condition of ideal perfection. By this we mean that processes have been devised by which the drug is completely exhausted of active principles, and menstrua selected which hold those principles in permanent solution. In stability of composition the fluid extracts doubtless excel all other concentrated preparations of vegetable drugs, except the isolated active principles themselves. Over these last they have an advantage in that they present the particular grouping of active constituents which is furnished in the native drug. One serious defect, however, they have in common with all other galenical preparations, *a variability in strength which follows as a necessary consequence of the variability in the crude drug itself*, with regard to the proportion of its active constituents.

When the physician prescribes .008 grm. (⅛ grain) of morphine sulphate, he knows exactly what result to expect from the dose, for he is dealing with a definite chemical compound. When he orders .065 grm. (1 grain) of opium, he cannot count with the same certainty upon the effect, for in spite of the standards adopted already in regard to this powerful narcotic, the opium dispensed may contain eight or it may contain 16 per cent. of morphine. Other drugs,

among them notably some of those upon which the physician relies for producing prompt and powerful effects, vary even more widely than this. Let the books state the dose of the drug as a fixed quantity, and the physician prescribes accordingly, often to be wholly disappointed in the effects he hoped to produce. Indeed we often are told to feel our way from a minimum tentative dose, in the case of powerful remedies, and that too where a prompt definite effect is all important. Has the scientific pharmacy of our time no remedy for this? We venture to predict that it will not be long without one. It is easy to point out the principles which must lie at the basis of the new system of galenical pharmacy.

The old standard, based upon the variable crude drug, must be abandoned, and in place of it adopted a new scientific one based upon the quantity of active principle contained in the preparation. Already this principal is recognized to certain extent with regard to opium; it is a pity that there had not been adopted in the present revision of the pharmacopœia an unvarying strength for standard opium, by which the strength of its various preparations might be adjusted to a nicety. It is true that many pharmacists would ignore the law laid down, but it would be much to have the law on the statute book.

But there is no reason why the same principle should not be carried out with regard to all powerful drugs which possess a definite active principle. If a good average sample of nux vomica contains one per cent. of strychnine, let the fluid extract be so adjusted in strength by assay that each cubic centimetre shall contain 0.01 grammes of that alkaloid. Belladonna leaves may contain from 0.1 to 0.7 per cent. of atropia. If 0.4 per cent. be found to be an average strength, let it be required that each cubic centimetre of the fluid extract of belladonna leaves shall contain 0.004 grammes of atropia, and so on throughout the list.

The new pharmacopœia takes one step in the direction of this reform, when it requires that the tincture of nux vomica shall contain two per cent. of its weight of extractive matter. It is evident, however, that "extractive" matter may vary greatly in its composition, and, indeed, is certain to do so under any variation in the strength of the menstruum employed. It would have been better to require that the alkaloid contained in ten grammes of the tincture should require (in aqueous solution, faintly acid,) two cubic centimetres of Meyers' volumetric solution, for complete prescription, and still better, if a practicable process for the assay could be devised, to adjust the strength of the tincture so that it should contain one-fifth of one per cent. of strychnine.

The day is not far distant when by rapid approximative methods of assay the strength of all important preparations will be judged and adjusted, and the physician will be able to prescribe with certainty of obtaining the desired effect.

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## Relations of the Wholesale Drug Business to the Art of Pharmacy.

WITH advancing civilization the aggregate labor necessary to secure to the multitude the comforts which in the past were luxuries only for the rich, is constantly increasing. Economy in the expenditure of force is the great problem of the age. The old wasteful modes of transforming into available force by means of the steam engine, the energy stored up in our coal beds, no longer satisfy us. Although the coal supply is not likely to be exhausted for centuries to come, yet we recognize the fact that the store is limited and we are not content so long as we are obliged to burn four pounds of coal to do the work for which one pound is theoretically sufficient. In like manner we are learning to husband our individual energies. Dissipation has a broader meaning for us than for our fathers. Once it meant nothing short of vicious indulgence of the lower appetites. Now we include under this term every form of misdirected energy—and all energy seems to us misdirected which is not absorbed in carrying out the main purpose of our lives. Our recreations even must be so selected as not only not to interfere with our proper work but even to aid in the furtherance of it. This principle, while it may be abused, is approved by reason and it is only by adopting it, in its broadest interpretation, that the greatest aggregate amount of work can be accomplished in the world. The point we wish to make is that concentration of the energies in one main direction of activity is for the individual the essential condition for the highest efficiency.

It is the same principle which makes division and sub-division of labor essential to the successful carrying on of the complex industries which are evolved in the progress of civilization. It may be in many instances profitable to unite two or more industries which are intimately connected or mutually dependent, but the highest success is to be reached in general by the firm which concentrates thought, inventive ingenuity and personal skill on the details involved in a single branch of business.

Above all it seems essential that the different orders of industry be kept quite distinct. Mercantile business, for example, requires a peculiar training of certain faculties; the mechanical arts call in play knowledge and skill and habits of attention of a totally different order; chemical manipulations directs the attention to still a different set of relations.

The art of Pharmacy has already been differential in accordance with these principles. The apothecary is becoming more and more dependent for his supplies, not only of chemicals, but of galenical preparations upon the large manufacturer. True he must be an expert in pharmaceutical manipulation, but he is required also to be familiar with the properties, physical, physiological, medicinal and toxic, of the numerous drugs he dispenses. He must understand thoroughly the art of making attractive to the eye even the packages he sends out, and he must expect moreover to be consulted as an oracle on all subjects even remotely connected with his business. He can well afford to relegate to the manufacturer a large part of the special work of preparing his fluid extracts, elixirs, etc., knowing that with his limited facilities he cannot compete with him in economy of production. In his case the skill may be pre-supposed; it is merely a question of economy, to be decided by the circumstances. The wholesale dealer in drugs is much further removed from everything pertaining to pharmacy. His is purely a mercantile interest. When and where to buy to the best advantage, how on the whole to secure a maximum of profit in his sales, what are the wants of those whom he hopes to make his custom-

ers, what especial inducements he can offer to secure increased business, these questions and such as these are of paramount interest to him. Clearly he makes a grave mistake if he attempts to combine with this purely mercantile business a subsidiary manufacturing business. Unless he have himself a thorough training as a practical pharmacist he will have neither inclination nor ability to assume the management of the laboratory in person, nor would he have the time to do so. The department must therefore be committed to the charge of an employé, more or less competent, who, however, has no personal reputation to make or lose, and who is necessarily hampered by the circumstance that his department is only of secondary importance. The manufacturing business is too unimportant to be pushed by costly advertising. It is intended, indeed, merely to enable the dealer to secure himself the manufacturer's profit on a few articles such as elixirs, tinctures, fluid extracts, etc., which do not require any extensive plant, and which the majority of his customers will accept without question under his label and implied guaranty.

We do not assert that an important legitimate manufacturing business may not grow up, especially in a new country, from such a beginning as we have described, but we wish to point out the difficulties which must surround such an enterprise, and the tendency it is likely to have to degrade the standard of quality in this class of pharmaceutical preparations. We think that such an association of incompatible business interests is in itself a mistake and that it should be discouraged for the following specific reasons:

1st. A manufacturing business carried on under the circumstances named labors under manifold difficulties. The wants of the department are not as promptly supplied as though it were the only business of the house.

The processes are necessarily wasteful as compared with those employed by the large manufacturer and they must often be hurried unduly to meet a pressing demand, the great anxiety being that the order be "rushed."

In short, the business is always of secondary importance, must constantly give way for something of greater consequence, has no opportunity for a healthy normal growth.

2d. A mercantile firm has no reputation at stake, and the manager of a subsidiary laboratory is still less a responsible person; the chances are that goods will be sent out on which no manufacturing firm would be willing to place the endorsement of its label.

3d. Large manufacturers have opportunities to purchase the crude material at first hand. The best of everything is offered to them first; what they reject, or do not need, goes into the general market; without paying a higher price for this material, they are able to procure the best, and their large experience enables them to discriminate the quality of drugs more easily and certainly than the mere dealer can. Many drugs, too, cannot be judged by appearance merely, and these they can afford to have assayed by a competent chemist before purchasing, of such vital importance to them is the quality of the crude drugs.

4th. The laboratory of a large manufacturing firm is much more completely equipped than that of a mere manufacturing department in connection with a wholesale drug business. All operations are conducted on a larger scale, and the results are naturally both more uniform and more satisfactory.

The truth of each of these propositions is so obvious that we may not enlarge upon them. The practical conclusion is not less obvious. In the interest of scientific pharmacy, let physicians discourage the use of pharmaceutical preparations which do not bear the label of some responsible pharmacist or manufacturing chemist.

## Collective Investigation of Disease.

THE practitioner of medicine has a three-fold duty binding on him in virtue of his calling: He owes it to his patient to restore him, *cito, tuto, jucunde*, to health; he owes it to himself to make his practice yield him a reasonable income; and he owes it to his profession to leave it in a more advanced condition than that in which he found it. We believe that this is the conception of our calling entertained by the vast majority of its devotees, but the number of those who have a properly proportioned regard for each of those three divisions of duty is not as large as it might or should be. The deficiency is probably most marked in that division which has reference to the advancement of the science and art of medicine. There are but few practitioners who will not admit when cornered, and most of them need not be cornered to extract the confession, that they have been remiss in this direction. Few, however, will attribute the remissness to lack of inclination. Lack of time is the excuse, and sometimes, though rarely, lack of ability. Not one of these reasons is tenable. Even the most cogent, lack of time, is too weak to maintain a perpendicular, for the practitioner who cannot devote the time required to do something in this direction, certainly cannot be found. It is, moreover, a singular fact, and apparently somewhat paradoxical, that the busiest men have the most time to spare for such contributions to the common stock as are the most valuable. Our best authors are indeed the busiest practitioners. These are they who write out of a fullness of experience—out of the abundance of whose hearts their mouths speak. Of such are our Hunters and Simpsons and Louis' and others, dead, and many whom we could name but for fear of being invidious, living. It is not those, moreover, who write most voluminously who contribute most. The voluminous writers, with rare exceptions, are those who compensate their own lack of experience by utilizing and elaborating the solid chunks of unembellished wisdom let drop throughout the periodical literature by those who do not aspire to be book-makers. What the science of medicine wants are facts, for science is nothing more nor less than a correct grouping of facts. Theories are no part of science; although frequently mixed up with it they are not of it. Now, the time required to record a fact, be it ever so stupendous, is very short indeed. A physician can jot it down between the time of his observing it and his visit to his next patient. It is such facts as these that are wanted. It is the duty of the medical editor to clothe them in presentable garb if the recorder have not time, or if, perchance, he lacks the ability to do so. While a polished style and a pleasing diction are very desirable in a contributor to a medical journal, they

are not the essential thing. Verbosity can never compensate for the solid meat of fact.

The preceding general remarks are intended as an introduction to a few in elucidation of the scheme hinted at in the heading of this article. It is suggested by the elaboration, in the British Medical Journal, of a plan adopted by a branch of the British Medical Association with a view to an investigation of such special diseases as may be selected. It originated in the following suggestion by the president of the Association, Professor Humphrey, at the Cambridge meeting, in August, 1880:

"It is by greatness of result, rather than by greatness of numbers, that we must be judged. The greater the force, the greater the waste, unless it be well applied. But one work—a work that especially appertains to the Association, the work of collective action, of the pull together of eight thousand members of the profession, I mean the work of cumulative observation, or accumulated data—has been too little attempted; or, if attempted, has been productive of too little result. I am aware that anything on a large scale of this kind is a serious undertaking, a gigantic enterprise; and I feel it, therefore, to be worthy of this gigantic Association. It is, perhaps, the only work in which all, or a large part, of the members can really and fully participate, and to which each can contribute his mite. It is almost the only way in which questions relating to temperament, climatic, and topographical agencies upon disease, and many others can be fully investigated and solved. To engage the members of the Association as participators in any division of such work would prove one of the most powerful inducements to the cultivation of observation and thought respecting the mass of facts which are passing, now too often unheeded, or unnoticed, before their eyes; and would tend, more than any other thing, to deepen their interest in the science of medicine, and to impart the charm of wider usefulness to the daily routine of life."

Professor Humphrey referred to the immense power and influence of the British Medical Association, and to its ability, because of this large membership (8,000), to make the collective investigation of disease a grand success. The plan is one which must commend itself, and the means for its carrying out, the British Medical Association, with its membership, must certainly prove effective. But the plan is not less commendable in this country and we believe that means equally effective can be suggested here. These means are the readers and the columns of the THERAPEUTIC GAZETTE. Our circulation is upwards of 11,000 (which represents probably 15,000 readers) and among the class of physicians with whom the practice of medicine is not a dilletanteism, but a pure matter of business—country practitioners, chiefly, who are thrown upon their own resources in emergencies, and in whom ingenuity and the powers of observation are thus constantly exercised and strengthened. The influence and effectiveness of united effort on the part of these readers in the line suggested, would be simply immense. We feel that if we can succeed in thus directing such effort, we will have accomplished an inestimable good. We appreciate, we think, the magnitude of the work which must be imposed on us should we succeed in but partially enlisting our readers in this great scheme, while if the interest becomes general, this work may perhaps transcend our personal supervision of it. In the latter case, due provision will be made.

We would suggest as a subject for collective investigation, diphtheria, and will enclose in our next issue a schedule of queries, and will then also enter more fully into the details of the scheme.

## Pharmacopœial Changes.

THE appendix to the Pharmacopœia explains by means of tabulated lists the various changes that have been made in the late revision. These lists exhibit respectively: First, Articles and preparations added to the pharmacopœia; second, Articles and preparations dismissed; third, Changes in officinal Latin titles; fourth, Changes in officinal English titles; fifth, Changes in the strength of officinal preparations. While this scheme includes perhaps every fact of importance in the changes made, it sometimes leaves the real nature of those changes to be inferred instead of distinctly stating it. This is especially true in cases where one preparation has been substituted for another. It would have been possible by cross-references, or by the use of arbitrary signs to indicate whether an article mentioned in the list of additions was indeed new to the pharmacopœia, or only an old acquaintance in disguise, or an equivalent for something that has been discarded. Thus we find as an addition to the list alcoholic extract of conium (for fruit) where the nature of the change is intimated, but we do not find extract aconite (root), although further on we are told that root has been substituted for leaves in preparing extract aconite. Again, we find among additions, abstract of ignatia, jalap, senega and valerian, but with no intimation that these preparations have replaced the respective extracts of older editions of the Pharmacopœia. So among the additions we find phosphoric acid; vice glacial phosphoric acid, dismissed.

Would it not have been well to exhibit separately in tabular form these substitutions?

A few distinct sins of omission may be pointed out. Phosphate of iron (ferrous) has been dismissed from the Pharmacopœia and the name given to a totally different preparation, citrated ferric phosphate. Nowhere is there mention made of the circumstance that any change has been made.

In the list of articles dismissed we find alumen (ammonia alum) but we do not find the corresponding addition mentioned. In this case, however, attention is called to the change in each of the other lists. Among the substitutions that have been made two are of such importance that we recur to them once more. Extract of aconite U. S. P. 1880 is prepared from aconite root; extract aconite U. S. P. 1870 was made from the leaves. The strength of the former is stated on good authority to be about nine times as great as that of the latter. In the same way conium seed has taken the place of conium leaves in all the preparations of the drug with nothing in the present officinal names to indicate the substitution. It would have been well in these two instances to disregard the rule of nomenclature which justifies the omission of the defining words "root" and "seed," and physicians in prescribing these articles hereafter must be doubly careful to make their meaning unmistakable. Write extract aconite root, extract conium seed, until it shall be forgotten that the leaves of either of these plants were ever used medicinally.

## The Neglect of Therapeutics.

IN looking through an exhaustive retrospect of the annus medicus, 1882, as it appears in the British Medical Journal, we find a reference to the progress during the year in the various divisions of medicine, anatomy, physiology, pathology, surgery, obstetrics, gynæcology, but all reference to therapeutics is conspicuous from its absence. This same neglect of this latter division is also habitually conspicuous through other leading medical journals, in fact the consideration of therapeutics, the very aim and purpose of medicine, seems to disappear from our periodicals in direct ratio to their prominence and standing. It is certainly very paradoxical that the very *raison d'etre* of medicine, the key-stone of the arch, should be relegated to this inferior position, but such seems to be the tendency among a certain class of medical writers.

There are two great classes of therapeutists, viz., those who adore nature and despise art, and those who regard art as a very efficient adjuvant to nature in correcting her irregularities. The practice of the former is apparently to sit idly by, rapt with admiration, while disease rages, deeming it their highest mission to discover the cause of the disturbance and to detect the effects of the storm. The latter are ever to be found in the thickest of the fray, enquiring not how it has happened that the injury has been received, but lending a helping hand to assist struggling nature to her feet again. These, too, may admire the majesty of the storm, but their hearts are sensitive to its ravages, and they are active to succor. The former may be called the medical dilletantes; the latter are the every day laborers, who are out in the heat of the day and bear the brunt of the battle.

We do not by any means decry the divisions of medicine which we have referred to as receiving such prominence in leading journals. They are the foundation of the superstructure of therapeutics, but the most admirable foundation is useless except as it is utilized to the erection of the fabric. The most insignificant hut, destitute of foundation other than mother earth, is vastly more serviceable than the gorgeous and most substantial foundation on which is reared no pile. Empirical medicine is of more value to suffering humanity than are all exact divisions, so-called, except as they form the basis of rational medicine. We would not regard pathological anatomy, medical chemistry, etc., less highly but we would place therapeutics close by their side in point of importance. It is our mission in conducting the THERAPEUTIC GAZETTE to embellish the edifice, to repair what breaches in its walls we may, and to make it more useful as well as more sightly, leaving it for others to broaden and deepen and strengthen the foundation. We solicit the active coöperation of our readers to this end; it is, indeed, only as such coöperation is received that our efforts can fully succeed.

## The Effects of Famine on the Public Health.

FORTUNATELY for us the extent of our territory, with its variety of climate and soil, and the thrift of our people have heretofore prevented an opportunity of observing the effects of prolonged deficiency of food on the inhabitants of this country. The question of famine, as far as we are concerned, has only a scientific interest outside of its appeal to our philanthropy. In other lands it is not so, and we have taken a melancholy interest in the perusal of a paper read before the Grant College Medical Society, of Bombay, by Dr. Cowasji Nowroji, in which the learned author describes with characteristic minuteness of detail, the effects of scarcity of food as noticed by him in the famines of India. While the powers of vital resistance are lowered and the system thus rendered more liable to attack by existing poisonous influences, Dr. Nowroji records the occurrence of no specific disease due to the famine. His observations herein differ from those of other observers on the basis of whose reports typhus fever is usually regarded as directly due to this cause. He notes the foul condition which existing ulcers are liable to assume. A notable diminution in the number of births characterizes years of famine, from which fact we infer that the procreative function must be impaired, for we should not credit the heathen coolie with any deliberate or intelligent measures looking to a prevention of the legitimate results of the act. This latter is a refinement of the occidental civilization. The children that are born during a famine are also, according to Dr. Nowroji, of a scrofulous diathesis, and perish in great numbers in a few years.

The general conclusions of the author may be formulated as follows:

1. That though famine may not engender a special pestilence, it swells the death-rate of the stricken-down population, owing to the severity of the type which most maladies assume when co-existing with it; 2. That there are other diseases which must be recognized and treated as the special disorders of faminine; 3. That the muscular tissue, including the heart, is very prone to fatty transformation and disappearance; 4. That the nervous system shares the general atrophic changes induced by starvation, but in a lesser degree; 5. That there is a certain stage beyond which the morbid effects are irremediable; 6. That the langour and the indisposition for exercise any kind, bodily or mental, evinced by the famine-stricken, must not hastily be ascribed to indolence or idleness; and 7, lastly, that the mortality during a famine cannot alway be separated from the famine mortality.

The paper as a whole is a valuable contribution to a subject but little understood in this longitude.

## Nauseapathy.

OUR English brethren are quite exercised over the recent introduction neath their classic shades, of certain homœopathic specifics of cisatlantic origin, and our esteemed contemporary, The Medical Press and Circular, is very emphatic in its hope that the innovations may die before they become acclimated. The remedies which it regards with especial disgust are such as syphilin, buboin, gonorrhin, leucorrhin, glanderin and anthracin, which the inventors unblushingly describe as "isopathics or nosodes." It is easy, it says, to trace the crude and ignorant reasoning which, arguing along the *similia similibus curantur* line, has led to the manufacture of such disgustingly loathsome productions, but it is impossible to conceive that the patient and long-suffering, even among the victims of homœopathy, will consciously submit to such imposition.

We heartily concur with our contemporary in its denunciation of these irregularites, and we have no doubt our readers will be equally emphatic in their disapproval of them. But, brethren, let us not strain at a gnat and swallow a camel. Verily ye are not only tolerating but actively encouraging preparations not a whit less unethical or more scientific than those above denounced. The homœopathic section have by no means a corner in the "—*in*" termination; and they were not the first to utilize it in floating a class of compounds the principle of which is in open antagonism to everything that distinguishes the scientific practitioner from the empiric. If there is any difference between the homœopathic "—*in's*" and those which are copyrighted and advertised in reputable medical journals, and prescribed by reputable practitioners, it is in favor of the former, for they are simples while the latter are conglomerations of drugs, which, having their origin in the brains of men either ignorant alike of medicine and pharmacy or deliberately dishonest (for none others would presume to issue such compounds), are not infrequently pharmaceutically incompatible, while they are always so from the standpoint of rational therapeutics. While these nostrums are prescribed by the regular profession, it will be the height of inconsistency on their part to ridicule the "—*ins*" coming from other sources.

## Alleged Short Weight Quinine Pills.

THE article in our present number by Professor Prescott, of the University of Michigan, is of very timely interest. Its purely scientific nature, strict impersonality and the entire absence of reference to recent analyses, but increase this interest, while the well-known fact that Professor Prescott had charge of the revision of quinine and opium assay methods in the recent revision of the U. S. P., attach to the article the weight of the highest authority. In the discharge of his duties in that connection his facilities must have been unsurpassed, and his statements in the present connection cannot, therefore, be gainsaid, in which regard they differ materially from the utterances of irresponsible anonymous "commissioners."

In spite, however, of the absence of reference, the careful reader who has interested himself in the question raised by the Philadelphia Medical News, in a sensational article referred to in our last, will scarcely fail to discover in the article a very pointed arraignment of our contemporary's anonymous chemist. The arraignment consists in the plain statement of unadorned facts—facts which the evidence on which the charge against the leading manufacturing chemists is based does not show were taken into due consideration. Thus in the News' analysis there is no mention made of the variability in the amount of the water of crystallization in the quinine of different manufacturers. Professor Prescott clearly shows that the failure to take this into account must vitiate the results of an analysis. The fact also that until the recent revision of the U. S. P. there existed no fixed, authoritative limit to the loss of water by drying, is also quite important, particularly when taken in connection with the fact that the analysis, as made by the News, was almost simultaneous with the issue of the recent revision in which the standard is fixed. If, as stated by Professor Prescott, the quinine of leading manufacturers taken fresh from the cans, shows a variation of from 16 to 9 in the percentage of water of crystallization, the fact, in the absence of fixed standard, is clearly sufficient to account for a discrepancy in the amount of anhydrous quinine as contained in pills manufactured from the different brands. The failure of the party assuming the position of censor to take this important fact into consideration, needs scarcely to be commented on.

The liability to discrepancy of result from the employment of the same means for the separation of the quinine which is contained in different excipients, is clearly indicated by Professor Prescott. It will be remembered that the News' analyst employed the same means in the case of each of the seven brands of pills which he examined, thus utterly failing to take into consideration a fact very important in its bearing on an analysis.

The relative strength of the sulphate and the bisulphate of quinine is not void of practical importance in connection with the various brands of quinine pills in the market. We are convinced that practitioners do not, as a rule, properly discriminate in this matter, and that in prescribing, these two salts are regarded as containing the same amount of the alkaloid. Professor Prescott's statement on this point is, therefore, timely. He has shown that the bisulphate contains only 79 per cent. of the quinine value of the ordinary sulphate. A two-grain bisulphate of quinine pill is thus equivalent to but 1.58 grain of the sulphate of quinine. We by no means charge any intent to deceive as the part of manufacturers who offer bisulphate of quinine pills in competition with those of the sulphate, but the effect is practically to deceive. We know that many practitioners believe that in prescribing the two-grain bisulphate of quinine pill they are administering two grains of "quinine," by which term the sulphate is invariably implied. We do not believe that the excuse of the manufacturer that he is not responsible for the failure of the practitioner to recognize the difference in the relative strengths of these two salts, is strictly valid. It is too technical to satisfy the demands of inflexible honesty.

We commend Professor Prescott's article to the studious perusal of our readers. It will scarcely need this scholarly, scientific paper to offset any deleterious effect which the recent analysis of the Philadelphia Medical News may have had on the reputation of the manufacturing chemists of this country. That analysis has fallen flat, and its own inherent weight will keep it down. As an attempt at sensationalism it was a failure. We would by no means discountenance analysis of pharmaceutical preparations before the profession, but would, on the contrary, commend the enterprise of the journal which institutes them. We do protest, however, against the commission of a task involving great delicacy of manipulation and correctness of chemical knowledge to one who conceals himself behind a pseudonym, or to one whose name is not a proper guaranty of a combination of sterling integrity with indisputable competency. Had the proper conditions of an analysis been complied with in the case of that published by the Medical News, we should have felt called upon to give it critical attention, and it would also have received such attention from others. As it is, however, it has, as we have said, fallen flat and has received only a passing notice.

### Permanganate of Potash in Amenorrhœa.

APROPOS of the question touching the unreliability of the agents at our disposal for re-establishment of the menstrual flow, which has agitated the columns of this journal for some time, we would call attention to the claims recently advanced for permanganate of potash by that twain of progressive therapeutists, Drs. Ringer and Murrell. In an article in the Lancet of the 6th ult. they give a synoptical statement of results which certainly argues very strongly for this drug as an emmenagogue regarding whose activity there can be no question. Their observations have extended over a period of thirteen months and their conclusions are based on notes of sixty-nine cases, the majority of which were hospital patients. Their rule has been to first discover the menstrual history of the patient and then to give the salt for three or four days prior to the expected period. The most striking results have been noted in young women between the ages of eighteen and twenty-five, who from some accidental or trivial cause, such as catching cold or getting wet, have missed once or twice after having been regular. In the case of country girls who have "seen nothing" for a month or two after coming to town, the treatment has answered admirably. While a few days' treatment will usually be found sufficient it will be necessary sometimes to continue it for weeks. In the irregularity occurring during lactation after, say eight or ten months' nursing, the remedy is also valuable. In the amenorrhœa of phthisis it is useless. While care should be exercised in the case of suppression from pregnancy the authors do not think that in the doses which they recommend the drug has any power to produce abortion. They attribute the emmenagogue properties of the salt to its manganese, and not to the potash, as is shown in the fact that the manganate of soda and the binoxide of manganese are equally efficacious. Their method is to give the permanganate of potash in doses of from one to two grains three or four times a day. The treatment succeeds equally well in the plethoric and the anæmic. In chlorosis it sometimes brings on the menses without improving the anæmia.

### The Practical Medical Journal.

THE term medical journal has become generic and embraces an increasing number of species. Formerly this division did not exist and the medical journal covered the whole field of medicine in all its ramifications, and it is, indeed, still the aim of many excellent contemporaries so to do. The tendency, however, is towards a division of labor in the matter of periodical medical publications, the division corresponding to those subdivisions which in their totality constitute the science and art of medicine. Thus we have journals devoted respectively to chemistry, pharmacy, anatomy, surgery and its subdivisions, physiology, pathology, materia medica, therapeutics, practice, etc., which are published for and chiefly supported by specialists in these different divisions. While the competent general practitioner must be well grounded in all of these his knowledge of them is not supposed or expected to be minute, nor are his study and investigation expected to be of such a nature as is calculated to advance the knowledge of them beyond the limits as prescribed in the standard text-books. The most that can be expected of him is such a knowledge only as the necessities of therapeutics demand, and he cannot be convinced (for it is not a fact) that the minute acquaintance with each of these subjects which we look for in the several specialists, is a necessity to the successful general therapeutist.

The practical medical journal, therefore, being just such a publication as the necessities of the practical physician, the general practitioner, demand, must conform to the standard above hinted at. While it must not ignore the labors of the specialists, of those who labor to extend the minute knowledge of the several divisions of medicine, or of those who would reduce medicine to a science, with its mathematical precision, its mission is to select from the results of these labors such determinate factual knowledge as can be utilized to the relief of pain and suffering, and the re-establishment of the equilibrium in the body disturbed by disease. If specialism of any nature be permissible in the practical medical journal, it can only be the specialism of therapeutics—a division of medicine which presupposes a knowledge of all the rest, and whose office it is to discover the best means to this great end of medicine.

### The S. D. Gross Professorship of Pathological Anatomy.

NO living American has occupied a more prominent place in the ranks of medicine in this country or has done more by personal example and his writings and teaching, to further the highest professional good than has Dr. S. D. Gross. It is but fitting that something be done by the profession to perpetuate the memory of such a name, and at a meeting of the Philadelphia Alumni of the Jefferson Medical College, after Dr. Gross' retirement from his professorship in that institution, it was resolved that the means to this end be a memorial professorship. Committees were appointed to receive the necessary contributions and to arrange the details. We are informed that the response to the appeal of the committee on contributions has already been even unexpectedly liberal, one graduate having alone subscribed $2,000, and another $1,000. While the matter is one in which the alumni of the Jefferson Medical College are perhaps particularly interested, this interest is by no means confined to them, for Dr. Gross is a national character and is everywhere admired as the great American surgeon, teacher and author.

The permanent committee has appointed Dr. J. F. Noyes, of 101 Shelby street, Detroit, to represent Michigan in the creation of the fund, and subscriptions may be made to that gentleman or forwarded by draft, postal order or registered letter to the treasurer, Richard J. Dunglison, 814 North Sixteenth street, Philadelphia.

### A Newly Discovered Property of Avena Sativa.

THE Canadian Pharmaceutical Journal in referring to the recent wonderful discoveries of diuretic, laxative, tonic, nerve-stimulant, anti-alcohol and anti-opium properties of the oat—properties which for æons lay concealed under a bushel, as it were, waiting for the transcendent genius of this penultimate decade of the nineteenth century to bring them forth—announces another remarkable property which

it has discovered in the modest cereal. Our contemporary has not been precipitate in its announcement, preferring rather to wait until it had gathered an irrefragable mass of testimony with which to back up its discovery. It is now prepared to defend against all comers the claim that in gastralgia due to prolonged abstinence from food, it is the sovereign remedy. It administers the grain in the form of a paste prepared with aqua bulliens, and prefers that it be taken in connection with the lacteal secretion of the female of the bos taurus. A little sacchar. alb., syrupus simplex, s. niger, or theriaca, would, we believe, not only add to the palatability of the mass, but would also act as an admirable adjuvant.

We commend this remarkable discovery to the consideration of those especially interested in developing the virtues of the avena sativa. In a commendable spirit of devotion to science, our contemporary has not sought to restrict the benefits which must accrue from its revelation, by any patent, copyright, trademark or other device. Our lot has certainly been cast in an era of strange happenings.

## Abstracts.

### Pure Oleates.

The use of an oleate of mercury in place of the time honored mercurial ointment was suggested more than ten years ago by Prof. John Marshall, and the advantages of the preparation were so manifest that it came immediately into general use. The oleate was prepared in a very crude manner, by merely dissolving mercuric oxide in a large excess of oleic acid, and although the product left much to be desired from the pharmacist's standpoint, it so far met the expectations of the profession, that a general interest in the compounds of oleic acid was aroused, and experiments were made with oleates of certain alkaloids, as well as of several of the metals which promised to be of great therapeutic usefulness.

These compounds were, however, generally made by the same crude and unscientific method which had already been employed in the case of the mercuric oleate.

Recently, however, attention has been turned to the pure oleates, particularly of some of the metals, as possessing properties which should entitle them to a place in the materia medica. It had been assumed that for dermic medication the oleates possess advantages over all other known compounds, both from the facility with which they might be blended with fats in ointments, and the readiness with which, when so blended, they might be absorbed. Clinical experience has confirmed these hypothetical assumptions, and the oleates of zinc, lead, mercury, bismuth, copper and aluminum have already found important applications in therapuetics, and those of iron, silver and arsenic promise to be scarcely less useful.

Dr. John B. Shoemaker (Transactions Pennsylvania State Medical Society) sets forth some of the advantages of ointments prepared from the oleates as follows:

1. The compounds of oleic acid are remarkable for their ability to penetrate rapidly into animal textures.

2. Ointments prepared from the pure oleates are wholly free from rancidity.

3. The ready absorption of the oleates renders the ointment prepared from them more cleanly than any others.

4. These preparations may be applied to the skin without the tedious friction requisite to promote absorption in other cases. They are likewise much more economical in the amount of material required to produce a specific effect.

5. The metallic oleates seem to exert an antiseptic action, not only on the fats with which they may be combined in an ointment, but also on the discharges from wounds and suppurating surfaces.

*Oleate of Mercury.*—The impure solution of mercuric oleate is well known, and all who have had occasion to dispense it know how unstable is the compound in presence of excess of oleic acid.

The pure precipitated oleate of mercury is not liable to this objection, and from this an ointment of any desired strength may be readily prepared with lard or lard oil.

Its uses are already somewhat familiar, being the same as those of the old-fashioned mercurial ointment. It destroys all parasites, animal or vegetable, and produces all the therapeutic effects, local or constitutional, which have so long rendered mercury an indispensable article of the materia medica.

*Oleate of Zinc.*—An impalpable powder of a light pearl color and an unctuous feel like that of powdered French chalk.

It is applied by dusting it over the surface, and its uses in this form are numerous. It is said to be par excellence the remedy for excessive sweating (hyperidrosis) and ossindrosis. It is the most reliable remedy for eczema, and it may be employed in all cases where the oxide of zinc ointment has heretofore been esteemed.

It may be employed also in the form of an ointment, containing 25 per cent. of the oleate.

*Oleate of Lead.*—This compound is used in the form of an ointment (60 per cent.), which is substantially Hebra's unguentum diachyli, but has the advantage of greater definiteness in composition, and is besides more readily prepared. It is used to allay the inflammation and check the discharge in the pustular eczema of infants; it relieves the intense irritation of popular eczema, and especially that form which occurs in the flexures of joints, around the axilla, etc.

It is also useful in simple lichen, in acne about the face and back, and, in combination with milk of sulphur, in ordinary scabies.

*Oleate of Copper.*—An ointment containing ten or twenty per cent. of the oleate may be used. It is very efficacious in the treatment of ringworm. It is useful also as an application to hard and horny warts, corns and bunions.

*Oleate of Aluminium.*—The ointment prepared from this oleate has a powerful astringent action. Its chief use, therefore, is in checking profuse secretion, as in some forms of eczema. It may be employed as a dressing for foul ulcers, abscesses, sinuses, burns and scalds, etc.

*Oleate of Bismuth.*—The oleate of bismuth is of an ointment-like consistency; it is emollient and slightly astringent, and is a most valuable remedy in soothing and relieving cutaneous irritation.

In pustular eruptions, particularly in sycosis, this oleate, pencilled over the surface with a camel's hair brush, will greatly relieve the engorgement of the

parts; it will often abort the pustules, and relieve the pricking and itching which are so intolerable to the patient. It is also useful in superficial erysipelas, in sunburn, as an application to cracked and sore nipples, and in the treatment (applied by a bougie) of subacute gonorrhœa and gleet.

*Oleate of Iron.*—This forms a reddish-brown paste of a feebly styptic taste, readily soluble in fats. It exerts locally an astringent effect, but may also be employed with a view to its constitutional, tonic action, since it is readily absorbed.

*Oleate of Arsenic.*—This is employed in the form of an ointment, containing 20 grains to the ounce, chiefly for its caustic action in the treatment of lupus, of the ulcerating variety of epithelioma, and for destroying warts, condylomata, nævi, corns, and old granulations. Its action is mild and comparatively painless, and it may be combined with anodynes, such as the oleates of morphia, atropia, etc. When used for warts, corns, etc., the surface must first be punctured or scraped to afford it opportunity to act.

*Oleate of Silver.*—This, like the oleate of zinc, is offered in the form of a fine powder. When mixed with lard in the proportion of from 10 to 60 grains to the ounce, it forms a dark brown, soft and pliable ointment. It is useful in relieving itching about the meatus auditorius, the anus and the genitals; it is recommended as an application to prevent the spread of erysipelas, or, sufficiently diluted, to be applied to the inflamed surface.

The pure oleate may be employed in the treatment of chronic ulcers, bed sores, etc., to bring about a more healthy condition of the parts

The following formula, in use in the American Hospital for Skin Diseases in Philadelphia will illustrate further the use of these preparations:

In fissured eczema of the plantar and palmar surfaces:

℞ Hydrargyri oleatis, ʒ ss.
Olei cadini, ʒ ss.
Cerati simplicis, ʒ ss.

M. Sig. Rub well into the part, after macerating in hot water, night and morning.

In infantile eczema:

℞ Unguenti plumbi oleatis, ʒ ss.
Pulveris marantæ, ʒ i.
Cerati simplicis, ʒ ss.
Olei olivæ, q. s., ad ft. ung. moll.

M. Sig. Apply lightly over the surface, and in case of much pustulation of the surface or a swelling of the glands, the addition of one-half to one-quarter of a drachm of the oleate of mercury to the above will be very advantageous.

In rosacea, etc., the active inflammation of the blood vessels and tissues of the face may be checked by

℞ Unguenti plumbi oleatis,
Bismuthi oleatis, ää ʒ i.

M. Sig. Apply a very small piece night and morning.

In eczema of the anus with external piles great relief is afforded by

℞ Bismuthi oleatis, ʒ ij.
Extracti opii, gr. x.
Extracti belladonnæ, gr. x.
Cerati simplicis, ʒ ss.

M. Sig. Apply frequently.

## Book Reviews and Notices.

*Legal Medicine.* By Charles Meymott Tidy, M. B., F. C. S., Master of Surgery; Professor of Chemistry and of Forensic Medicine and Public Health at the London Hospital; Medical Officer for Islington; Late Deputy Medical Officer of Health and Public Analyst for the City of London, etc. In two volumes.

New York: Wm. Wood & Co.
Detroit: J. Willyoung.

These two volumes constitute the November and December numbers of Wood's Library of Standard Authors for 1882. Volume 1 treats first of evidence. Under this head the author treats of the various kinds of evidence; how and when it should be given; direct or positive evidence; circumstantial evidence; the kind of witnesses, common and skilled, or expert. Under the head "The Witness Box" the question of the use of written notes is discussed and the citation of authorities by the witness is discountenanced. In this latter regard we fully concur with the author. We have made it a rule in an experience of over 30 years, never to quote an authority, whether as a common witness to the fact or as an expert. An expert is called to give his opinion, and not to say who agrees or disagrees with him. If counsel may read a quotation from a book, the witness should see the quotation himself and use his judgment in making his reply. Books cannot be cross-examined, and hence are only written opinions of the author's experience. The closing section of the first chapter is devoted to "Preparation for Giving Evidence."

Chapter 2.—The signs of and the appearances produced by death. These are discussed as follows:

1. The entire and continuous cessation of the heart's action. 2. The entire and continuous cessation of respiration. 3. Insensibility and loss of power to move. 4. Certain minor signs of death. 5. Changes in and about the eye. 6. Changes in the temperature of the body. 7. Changes in the muscles and in the general condition of the body after death.

The stage of putrefactive decomposition.

1. Cadaveric ecchymosis. 2. Putrefaction proper. 3. Data upon which an opinion may be formed as to the time a decomposing body has been dead. 4. The tissues and visceral changes produced by putrefaction. 5. The formation of adipose (saponefaction). 6. Mummification of bodies.

Chapter 3.—Personal Identity.

*a.* Identity in the case of a living person, or of a body that has been dead a short time only. *b.* Identity in cases where mutilated remains only have been recovered. *c.* Identity in cases where an entire or an incomplete skeleton has been recovered. *d.* Identity in cases where burnt remains have been discovered. 1. Human remains. 2. Age. 3. Sex. 4. Stature. 5. Race. 6. Likeness as proof of identity. 7. Congenital peculiarities; hereditary diseases. 8. Marks on the hands or feet. 9. Cicatrices and tattoo marks. 10. Hairs and fibres. 11. The teeth. 12. Stains. Under this head blood and seminal stains, stains from grease, tar and pitch, tobacco, iron, lemon, madder, sanguinaria, Brazil wood, logwood, camwood, red saunders and other vegetable stains are discussed. 13. Inks and handwriting. 14. Limits of sight and questions relating to vision. 15. Questions relating to sound.

Chapter 4 treats of Causes of Death.

Chapter 5 discusses The Post Mortem—a medico-legal inquiry—in the following order:

1. Examination of the surroundings of a body. 2. Of a body before the removal of the clothes. 3. Exterior examination of the body after removal of the clothes. 4. Internal examination of the body and how it is to be performed, and the observations to be made.

Chapter 6.—Sex; montrosities; hermaphrodism.

1. Has the monster the shape of mankind or not? 2. Is the monster male or female, or both in one? 3. If the individual in question be male or female, or both in one, is it capable of procreating its kind? Illustrative cases are given.

SECOND VOLUME.

Chapter 1.—Expectation of life.

*a*. Questions of survivorship when two or more persons have met their death by a common accident. *b*. Questions of survivorship when the precise data and time of death of one of the parties is known, whilst that of the other is only presumptive.

Chapter 2.—Heat and cold (considered medico-legally).

Chapter 3.—Burns and scalds.

Chapter 4.—Lightning.

Chapter 5.—Combustibles and explosives.

1. Spontaneous combustion of perfectly dry organic substances. 2. Spontaneous ignition of organic substances moistened with water. 3. Spontaneous ignition of organic substances moistened with oil, etc.

Chapter 6.—Starvation; circumstances under which death may occur from starvation.

1. The symptom of starvation. 2. The time of death in starvation. 3. Treatment in cases of starvation. 4. Post mortem appearances indicative of starvation. 5. Diseases arising from a deficient diet or from an improper quality of food.

From the above resumé of the contents of this work, our readers can gain an intelligent opinion of its scope and usefulness. Of the qualifications of the author to produce it, there is no question. The subjects dealt with first constituted a course of forensic medical lectures in the London Hospital during the summer of 1881. These lectures were the basis of the present volumes. In the legal aspect there may be some difference between the rulings of the courts in England and those of this country, but in the medical aspect there can be no difference.

In our opinion the book is a very valuable addition to any man's professional library. Every medical man should own it and read it carefully, as the information he will receive will better qualify him for the duties of a witness, be he one as to facts or as an expert. In the latter case it will teach him how to so conduct himself as to avoid the annoyances expert witnesses are subjected to by the interests of opposing counsel.

As we have heretofore said of many of the volumes which compose this library of standard authors, it is a pity this work cannot be had separately. For our own part, so valuable do we consider it, that if not otherwise obtainable, we should purchase the whole series for 1882, in order to secure it. A full index closes the volume.

*A Manual of Histology.* Edited and prepared by Thomas E. Satterthwaite, M. D., of New York, Professor of Histological and Pathological Anatomy in the New York Post-Graduate Medical College; Pathologist to the St. Luke's and Presbyterian Hospitals, etc. In association with Drs. Thomas Dwight, J. Collins Warren, William F. Whitney, Clarence J. Blake and C. H. Williams, of Boston; Dr. Henry J. Simes, of Philadelphia; Dr. Benjamin F. Westbrook, of Brooklyn; and Drs. Edward C. Wendt, Abraham Meyer, R. W. Amidon, A. R. Robinson, W. R. Birdsall, D. Bryson Delavan, C. L. Dana and W. H. Porter, of New York City. Second edition. Enlarged and revised. Containing two hundred and two illustrations, with an appendix.

New York: William Wood & Co.
Detroit: John Willyoung.

When the first edition of this valuable work appeared we heartily commended it, and we were gratified to read that it was received in Great Britain and also at home with great favor. As an index of its popularity the first edition though large was soon exhausted, and a second has been immediately required. So sudden was this demand made upon the author, that he had only time to make such changes in the text as were necessary to remedy manifest errors, that unavoidably crept into the first edition. An appendix has been added to include all the advancements made since the issue of the first edition. These have not been extensive enough to necessitate a re-writing of the original text.

It is exceedingly gratifying to the American reader that such a complete histological work has been written by his own countrymen, and that it has received an unqualified commendation by the medical profession across the Atlantic. "Westward the star of empire wends its way," and we see no reason why the star of medicine should not shine over and rest upon the medical profession of the United States of America. Should every medical writer produce such a valuable work as the one before us, there would be nothing to hinder. It is handsomely sent out by its enterprising publishers.

*Annual Report of the Supervising Surgeon-General of the* Marine Hospital Service of the United States, for the Fiscal year 1882.

Washington: Government Printing Office.

The Supervising Surgeon-General, Dr. John B. Hamilton, opens his report with a summary of the work accomplished in this department of the service during the year, and it is the most powerful argument, were argument necessary, in support of the necessity for the fostering and support of the M. H. Service. We learn from it that 36,184 patients received relief, 13,048 having been treated in the hospitals, and 23,136 in the dispensaries; and 312 trusses were fitted, 23 elastic stockings, 8 knee-caps, 7 pairs of crutches and other appliances were furnished. The number of patients shows an increase of 3,571 over the preceding year. The receipts from all sources were $408,215.69 and the expenditures, $468,120.16, which includes the sum of $54,192.02 expended on permanent improvements and repairs, this leaving $413,928.14 as the net expense of the Service for the year. The expense was increased by the outbreak of small-pox during the year. The vaccinations were 3,278, and it is noted as a fact that there were, proportionally, fewer cases of small-pox subsequently developed among the boatmen than among the inhabitants of the several cities where the disease prevailed.

We note that among 2,396 physical examinations of seamen by the medical officers, 67 were discovered to be color-blind—certainly a much larger percent-

age than is ordinarily supposed to exist among the people.

The statistical tables accompanying the report are very complete and evince a close attention to detail.

We are pleased to note that the report is not confined to a dry detail of figures, upwards of 170 of the 290 octavo pages which go to make up the volume, being devoted to reports of medical and surgical cases, and the discussion of questions of hygiene. These reports comprise some exceedingly interesting cases, while the manner in which they are written shows the great value of a corps of trained observers in the systematic observation of disease. The facilities for making autopsies enjoyed by the service, moreover, enhance the value of the observations.

On the whole this report is not only interesting as a statistical statement of work done but is also valuable as a scientific contribution.

*Fourth Annual Report of the State Board of Health of the State of Rhode Island for 1881.*
Providence: Eli Freeman & Co., Printers.

The body of this report is composed of such material, vital statistics, reports of correspondents on prevailing diseases, etc., as go to make up documents of this nature. It is characterized by neatness of clerical work as well as by a completeness as regards the essential facts and their classification, which redounds to the credit of the secretary, Dr. Charles H. Fisher. Appended to the report proper are several papers of unusual merit: on Malaria in Rhode Island, by Dr. C. V. Chapin; on Pre-natal Education, by Dr. F. C. Clark; and on House Drainage and Sanitary Plumbing, by W. P. Gerhard, Esq., civil and sanitary engineer. Dr. Clark's paper is unique in its subject, besides being very thoughtful and suggestive.

*Vick's Floral Guide for 1883.*

From the appearance of Vick's Floral Guide, which is on our desk, we should judge that the young Vicks are "chips of the old block," as the Floral Guide with its lithographed cover is handsome enough for the parlor table. It is printed on the best of paper, has three colored plates of flowers and and vegetables, and full of useful information. Those who send 10 cents for it cannot be disappointed, as the plates alone are worth the amount. Address, as in past years, James Vick, Rochester, N. Y.

*Hiram Sibley & Co.'s Seed Catalogue for 1883.* Rochester, N. Y. and Chicago, Ill.

This is a handsome pamphlet of over 150 pages, printed on fine paper and handsomely illustrated. The wood cuts are exceedingly definite, but the colored plates of flowers and vegetables (of which there are four) are indeed beautiful. Send to the publisher for a copy, when you will learn the prices of seeds and plants of which there seems to be no end to the variety.

*Medical and Surgical Herald.* A Monthly Journal of Practical Medicine, Surgery and Dentistry. Joplin, Mo. Terms, $1.00 per annum. E. C. H. Squire, M. D., and R. Fred Frost, M. D., Associate editors.

Vol. 1, No. 1. The salutatory says no apology is offered for adding another to the long list of medical journals. We perfectly co-incide with this statement, but while extending the editorial hand, we are at a loss to comprehend the necessity of another medical journal, unless it be that it is an organ. Jasper is a large county, Joplin is an enterprising city, and Missouri is a great state.

*The Atlantic Monthly.* Devoted to Literature, Science, Art, and Politics. Vol. LI, No. 303, January, 1883, is on our table and maintains its enviable reputation. During the year, Oliver Wendell Holmes, Henry Wadsworth Longfellow, Nathaniel Hawthorne, Henry James, Jr., W. D. Howells, Charles Dudley Warner, and other writers of note, will fill its pages.

Terms: $4.00 a year, in advance, postage free; 35 cents a number. With superb life-size portrait of Emerson, Longfellow, Bryant, Whittier, Lowell, or Holmes, $5.00; with two portraits, $6.00; with three portraits, $7.00; with four portraits, $8.00; with five portraits, $9.00; with all six portraits, $10.00.

Remittances should be made by money-order, draft, or registered letter, to Houghton, Mifflin & Co., Boston, Mass., New York office, 11 East 17th Street.

*Medical Society of the State of Tennessee.* Transactions, 1882. Forty-ninth Annual Meeting. Duncan Eve, M. D., Chairman committee of publication, Nashville, Tenn. With compliments of the Secretary, C. C. Hite, M. D., also Secretary and Executive Officer of the State Board of Health. Office, Nashville, Tenn.

A neat volume of 186 pages and shows the Professors of Tennessee are alive and interested in the progress of medical science.

*The American Journal of Medical Sciences.* Edited by I. Minis Hays, M. D., and published by Henry C. Lea's Son & Co., Philadelphia, is on our table for January. It has made its quarterly appearance regularly for some years past, and continues to maintain its excellence as of yore. This journal with Medical News (weekly) will be sent post paid to any subscriber for $9.00 per annum. Remit by bank check or postal money order, to Henry C. Lea's Son & Co., Nos. 706 and 708 Sansom St., Philadelphia, Pa.

*Fourth Annual Book of the Michigan Sportsmen's Association.* Being the Transactions in full, of the sixth annual session held at Lansing, 25, 26 and 27 of January, 1881, to which is appended a synopsis of the Michigan Game, Fish and Allied Laws. Organized April 28, 1875.

*First Annual Announcement of the College for Medical* Practitioners of St. Louis, Mo., 1225 Washington Ave. Second session begins February 5, 1883, and ends March 10, 1883. Third session begins May 7, 1883, and ends June 9, 1883.

*Spinal Deformities.* Fracture of the Femur, Orthopædics and Injuries. Extracts of Clinical Lectures delivered by Edward Borck, M. D., St. Louis. Reprint from St. Louis Medical and Surgical Journal.

*Diphtheria.* A paper read before the Medical Association of Barry and Eaton Counties, at their regular meeting, held July 27, 1882. By A. P. Drake, M. D., of Hastings, Mich.

## Therapeutic Progress.

**On the Treatment of Enteric Fever.**—Although we know but little of the real nature of the poison that causes enteric fever, there can be no doubt that an organized particle is introduced into the system either by the air we breathe, or by the water we drink; perhaps in most cases water is the carrier. The infecting matter passes through the intestinal glands, and enters the blood. This poison differs from ordinary poison in the fact that it can multiply itself indefinitely. Some of the investigators in this interesting field have gone as far as to claim that they have found the germ or ferment that is the exciting cause, not only of enteric fever, but also of diphtheria, cholera and other contagious diseases. In a number of examinations microcosms were

found in various organs, particularly in the intestinal glands and liver. These microscopic bodies were seen in the form of rods which are easily distinguished from the bacilli found in decomposition. The rods were not found in the organs of patients dying from other diseases. It is the opinion of recent observers that micro-organisms are the cause of enteric fever. As, however, nothing is yet certain, we must content ourselves to investigate the cause of this fever by what we can see of its effects, although our knowledge is thus limited, when we bear in mind the amazing strides that have been made by organic chemistry within the last 40 years. It would, perhaps, be within the bounds of reason to say that before the close of the 19th century the germs will be discovered causing not only enteric fever, but also other infectious diseases. If the exact nature of the poison is doubtful, many of the laws governing its action outside the body are well established. We know that it does not originate spontaneously. The germ of enteric fever arises from another germ of like kind. Decomposing animal and vegetable matter in the ash-pit or water-closet may, and indeed very often does, become a nursery for it, but filth does not originate it. Epidemics of fever do not always arise in the overcrowded parts of a city; in fact, experience teaches that very often the reverse is true. When once introduced into a thickly settled town, it generally becomes endemic in the poorer districts where poverty and dirt are inseparable. In the two epidemics where I first studied the fever it was introduced by visitors to the cleanest part of the city. Of the specific nature of the germ there can be but little doubt. That the poison is a specific matter is well demonstrated by the introduction of the fever into our district two years ago. Two Chinamen were admitted into the hospital suffering from mild typhoid; 18 days after I saw a case in a town 25 miles north of us. As the men came from a camp near this township I concluded that they had used some of the closets, thereby depositing the seed of the disease. As a number of cases followed, the camp was visited; it was found that a number of the men had been confined to their tents, sick with symptoms of fever. Most of them suffered from diarrhœa, a few passing blood. Those who were able to leave their beds walked a few yards from the tent and made a water-closet of the ground. This was in Mt. Arden Creek, which is dry in summer, but runs after heavy rain. Not far from the camp is a well which supplies the town of Quorn with water. A short time before we received the first cases there was running water in this creek, and of course all the filthy surface was washed into the well. The whole matter was reported to the proper authorities, who ordered the well to be closed and cleaned. Only five cases occurred afterwards in the town. We also know that the poison is eliminated with the fæcal discharges. This is shown by the above outbreak, for the camp was otherwise clean, besides as some of the Chinamen were sick in the steamer coming to Port Augusta, it is more than probable that the disease came from Adelaide. The poison is communicated by the fæcal discharges only. When the germ is deposited in decomposing animal matter it may multiply itself. It does not originate, however, in offensive odors. There is reason to believe that the intestinal discharges are not infectious until the process of fermentation has began.

In sketching out our line of treatment for any disease, we should never forget that the patient is to be treated as well as the malady. A great deal may be done towards conducting the case safely through the different stages of the complaint by carefully watching the symptoms, anticipating accidents, and bringing the sufferer over critical periods. There are a number of important matters to be attended to before drug treatment is thought of, the administration of a sufficient quantity of easily digested food at regular intervals, a record of which should be kept by the nurse, economizing as much as possible the strength of the stomach and the heart. The patient should retire at once to bed and keep as quiet as possible. Failure of the pulse is to be guarded against by the timely use of stimulants. The patient is to be placed in a position favorable to recovery. The attendant should appear cheerful before the patient. I am sure that the success of the physician often depends upon the services of an intelligent nurse. We have to treat not only the symptoms seen at the usual daily visit, but often those observed by the nurse in our absence. Good nursing is attention to trifles, keeping the room clean and well ventilated, allowing the sunlight to enter, renewing soiled linen, the disinfecting and destruction of fæcal discharges by burial in the ground regularly, and order should be observed in the sick room. The best trained nurse is apt to prove a failure unless she is possessed of unlimited patience. Nourishment should be given every four hours or oftener. Milk and soda water when the stomach is irritable; well-beaten eggs and brandy may often be given from the beginning of the second week, the state of the pulse regulating the stimulant. At first enough is given to make the egg palatable, towards the end of the second week, if the first sound of the heart fails, the brandy is increased. Cold water should be given freely at all times, unless one hour before or after taking nourishment, as it might interfere with absorption. If sufficient nourishment is given delirium may be prevented.

But little need be said of the expectant method. It was adopted by most physicians in the American rebellion, small doses of quinine and the mineral acids being the practice. The percentage of deaths was very high, from memory, I think over twenty-five per cent. Long marches and scanty food had no doubt reduced the men, but I am persuaded that an energetic treatment would have saved many.

When the temperature does not exceed 102° in the evening, good nursing may carry the patient safely through the disease. Even at 103°, if the functions of the skin and kidneys are fairly performed, a good percentage may recover, but when the temperature rises above 104°, for a few nights in succession, death is to be feared, unless active treatment is adopted. When the glass stands at 104° for more than four or five nights, either death or a long convalescence is the almost certain result. As there are many eminent medical men who still hold to the expectant treatment, it may be asked, is there a better one? Have we a more scientific method? I believe we have. In the anti-pyretic or anti-zymotic, for they are alike in their action.

If a ferment in the blood depending upon an organized germ is the cause of fever, to destroy the germ would be to reduce the temperature.

Since the external use of disinfectants has become so popular, it naturally occurred to many physicians that if carbolic acid can check the process of decomposition and multiplication of disease germs on the surface of the body, why not introduce it into the blood, where we have reason to believe a specific poison is producing fever. We know that the diseased process in phthisis is often checked for a time by the inhalation of disinfectants. Why not then introduce anti-zymotics by the stomach and rectum as well as by the lungs.

A common sense view of the treatment of enteric fever, based upon our knowledge of its cause would favor one of the following courses:

First. To destroy the poison in the blood, thereby gradually subduing the disease by removing its cause, or, second, To protect the vital organs from the injurious effects of high temperature, by the application of cold water to the skin. Of the latter method I have had no experience, but for the last two years I have had good opportunity of comparing the anti-pyretic method with the expectant treatment, which I practiced for many years in the States.

Since the first case was admitted into the Port Augusta Hospital, about two years ago, 163 were treated,. Many of anti-zymotics were faithfully tried. If one disagreed another was used. Some patients could not take quinine in large doses. In

these cases salicylate of soda acted well in medium doses. Nearly all my early cases were treated with large doses of quinine. On one occasion with nine cases of fever in hospital my supply of quinine gave out. I then began to use salicylate of soda, giving 10 gr. every three hours, day and night, until the temperature fell to 100° or less at night. The drug was then stopped until the glass marked 102°, when three or four ten-grained doses were given from four to ten at night. The temperature was thus reduced again to 100°, from which it rarely rises, convalescence usually following in from seven to ten days.

In nine cases iodine and carbolic acid were used alone. Seven of them made good recoveries in the fourth week; in two I had to resort to large doses of quinine before the high temperature gave way. One dose of 35 grains was given every 48 hours. After three or four doses rapid recovery usually followed. Many of our cases suffered from severe diarrhœa, but were relieved by the carbolic and iodine treatment. In 34 cases quinine was used with the salicylacte, for although the 10-grain doses of the soda reduced the temperature to 100°, it rose rapidly when the remedy was stopped. I found it better then to administer two or three large doses of quinine on alternate nights, then increase the doses of soda after the second dose of quinine. A fall of the glass to 98 may be expected in the morning, this is soon followed by recovery. No unpleasant symptoms are caused by these large doses, save the usual deafness when the drug is not retained by the stomach. It proves just as effectual given by the bowels. This is preferable for children. In using the salicylate of soda in the above doses, no injurious effects were observed on the kidneys. When the temperature on admission is under 104°, carbolic acid and iodine are often all the treatment required. But if the glass marks over 103° after five days' treatment, one dose of quinine of 40 grains will not only reduce the heat to 100° at night, but also ensure a distinct intermission in the morning for one or two days after. Meanwhile the acid and iodine may be continued. To secure an intermission in the morning is of great importance in the treatment of enteric fever. By this a continued fever, or more correctly a remittent fever, is converted into an intermittent. The reduction of heat in the intermission may save the patient by allowing nature to repair the destruction caused by a continual high temperature. If the patient has been intemperate I prefer the carbolic acid treatment with an occasional dose of quinine. When the patient is young and has enjoyed good health, the salicylate of soda always does well in my hands. From my experience in the anti-pyretic treatment for the last two years, I am satisfied that if the patient is seen early enough the disease may be shortened, and when it is not shortened a long convalescence is avoided. A long convalescence is caused by the destructive effects of continual high temperature on the body, but particularly on the heart. If the glass marks 104° for more than five nights there is danger of the disease running into the fifth week, if not of death, unless there is a marked remission in the morning. It is the continual heat that destroys. But the certainty of a rapid convalescence is the least that can be claimed for the anti-pyretic treatment. The death rate is diminished very much. Of the 163 cases treated here there were 12 deaths. Of the 12, four died 48 hours after admission, two of them suffered from pneumonia. All of them traveled by rail over 150 miles. I have found that those who were sent by buggy are not so prostrated as the former. Most of my cases entered hospital in the second week of the disease.

What I claim for the anti-pyretic treatment is: 1st. That the poison is destroyed in the blood. 2d. That an early intermission is ensured. 3d. Tissue death therefore is diminished, and paralysis of the eart is avoided. 4th. The disease may be shortened. 5th. If not shortened, a long convalescence is prevented.—Wm. Markham, M. D., in the *Australian Medical Gazette*.

**On Neuralgia and its Treatment.**—There exists no better established nor important fact than that neuralgia is a disease arising when the body is in a state of general debility. This is now more generally recognized than formerly, when pain was too often regarded as the symptom of what was termed "sthenic inflammation," to be energetically treated by low diet and depleting remedies.

As this disease is frequently mistaken for rheumatism, gout, spinal irritation, &c., and *vice versâ*, it may be well to name some of the leading features of a typical case of neuralgia.

1. It occurs when general debility exists, is increased by fatigue, mental or bodily, but relieved by food and sometimes by stimulants.

2. The pain, which is sudden, darting, and excruciating, exhibits remarkable intermissions, especially in the early stages of the complaint, and the constitutional disturbance is slight (temperature, pulse, etc., frequently normal).

3. It is usually unilateral.

4. As the disease advances tender spots (points douloureux) are formed in the course of the affected nerves.

That debility is a prime factor in neuralgia we have but to call to our remembrance cases which constantly appear: The overworked, anæmic, badly fed girl suffering from neuralgia of the fifth, the anxious struggling man in the early years of professional life or of business, the married women weakened by childbearing or over-zealous in domestic cares, and the neuralgia of declining years degeneration having set in, nutrition being defective. In our diagnosis we are assisted by the family history of the case, whether nervous disease in any of its varied forms has existed.

The treatment should be directed in every case towards improving the general health. Nutrition must be improved by very nourishing food, well masticated, and if stimulants are prescribed they should be given with food; pure air night and day; great cleanliness, and the use of sponging with sea-salt and water. Cod-liver oil and cream are of service, given after meals. Quinine in facial neuralgias, and also chloride of ammonium; arsenic in cases of angina pectoris; iron and strychnine in anæmic states. Bromide of potassium is useful in mild cases, where the pain is not severe, but a general nervous condition exists, with restless irritability. The subcutaneous injection of morphia, beginning with one-sixth of a grain, is the most speedy and useful remedy we possess, and is a curative agent; for it checks at once pain, and thus gives us the opportunity of carrying out all those constitutional measures for improving the general health, whilst it disturbs but little appetite and digestion, and with use a toleration is established, and appetite sometimes improved; for nothing is more apt to destroy appetite than the distress of severe pain. In chronic cases of neuralgia a blister, not necessarily carried to the point of vesication, is often of the greatest possible service, and it is a treatment peculiarly adapted to old-standing intractable cases.

Having sketched the mode of treatment it is unnecessary to give illustrations of the ordinary cases which constantly present themselves in hospital and private practice. I therefore select from my notebook one of several successful cases where neuralgia has occurred in that period of life when a cure is rarely accomplished (some authorities say never)—the degenerative period.

In March, 1877, I saw, in consultation with Mr. Walker, of Wakefield, a lady aged seventy-six, who in early life had suffered severely from neuralgia of the stomach, which had been much aggravated by the treatment than in vogue of insufficient nutritive food and depleting remedies. This patient was seized with violent pain, affecting the nerves of the scalp, and which became so excruciating as to deprive her of sleep for many successive nights. She became delirious in consequence, and we decided to inject one quarter of a grain of morphia. This gave prompt

relief and procured sleep. She was ordered turtle-soup, oysters, and an exceedingly nutritious dietary. She was well supplied with food at night also, which invariably relieved the pain. A mixture, containing half-drachm doses of aromatic spirit of ammonia and fifteen minims of tincture of nux vomica, seemed greatly to improve the appetite, which became prodigious and surprising. The tendency to degenerate was kept prominently in view, pure air was freely supplied in the bedroom, and every other measure taken to improve nutrition and the general health. As a local application, the chloroform liniment with tincture of opium relieved pain, and as soon as the case became chronic, the hair was cut closely and blistering fluid applied to the tender spots, which were well developed in this case; multiple abscess formed, and were frequently opened by Mr. Walker. This old lady, after an illness of three months' severe suffering, recovered perfectly, left Wakefield for Harrowgate and is now (1882) in fair health, having had no return whatever of her former complaint. Her body is feeble, but her mind extraordinarily clear and bright for a lady who has passed her eighty-first year.—Reginald G. Alexander, M. A., M. D., Senior Physician to the General Infirmary, Bradford, in *The Lancet*.

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**Urticaria.**—H. J., 18 years. Here is a young lady who comes to us suffering from "the hives." Here, upon the forearms, you see these large, red blotches, each with a pale or whitish centre, no regularity as to distribution, but lying close together on some parts of the limb, while upon the hand, considerably removed from the others, are more patches. They are quite prominent, and give rise to a most exasperating sensation of burning and itching. Even now you see she cannot refrain from scratching the parts. Both arms and hands, and the face as well as neck, are involved. Doubtless the body and lower limbs share the affection in turn. There is never any difficulty in recognizing the disease, the wheals are so characteristic. In no other disease do we find wheals appearing suddenly, and, after remaining a varying time, disappearing as rapidly and mysteriously as they came. It is a most common difficulty, and the diagnosis is easily made out. But what causes it is not always so easy to ascertain. A case of urticaria or nettle rash, in which the exciting cause is unknown, is one of the most stubborn and unsatisfactory of all, and the doctor to whose lot it falls is apt to become disgusted with the study of dermatology. The exciting causes of urticaria are divisible into three heads: local irritants, a polluted circulation, and reflex irritation. Without going deeper into the subject, let me say that the first two causes are easily disposed of, and it now remains to be seen how reflex irritation is responsible. The patient yesterday morning indulged in fish for breakfast, and in the course of the afternoon felt a burning and smarting upon various parts of the body. It was not severe, however, till night, when she got warm in bed, at which time it became almost unbearable. Once or twice before fish has had the same effect upon her, but not for several years. She is of a nervous temperament, evidently, and this fact renders it all the more easy for the disease to manifest itself. My assistant tells me that just before coming into the room there was no sign of wheals, yet upon her entrance, I was able to show you some very fine specimens of them. The disease is, I feel convinced, a neurosis, not alone in the case before us, but demonstrably so in every case. The divisions I gave you a few moments ago are made for the sake of convenience only, and if the first two so-called heads be eliminated, I think that reflex action can be clearly shown to be the cause of the cutaneous phenomena in every case.

The treatment in the present case shall consist of three compound cathartic pills. Considerable constipation is present, and as no stool has been had since the eating of the fish, it will have the effect of removing the remnants of it and clearing out the alimentary canal. Locally, a lotion, as follows:

℞ Ammoniæ carbonatis, ʒ ss.
Plumbi acetatis, ʒ j.
Glycerinæ, f ʒ j.
Aquæ rosæ, f ℥ v.

M. Sig. Use as a wash, several times daily.

Without doubt our patient will obtain relief by these measures.—Clinic of Dr. F. Le Sieure Weir, reported in *Med. and Surg. Reporter*, Dec. 16, 1882.

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**Treatment of Chronic Abscesses by Injections of Alcohol.**—M. Assaky reports fourteen cases of chronic abscess treated after Professor Gosselin's method. This method consists in the injection of alcohol, and is based on antiseptic properties of this agent, and its action on inflamed or suppurating tissues. An incision about a third of an inch in length is first made, and the abscess-cavity, after its contents have been discharged through this opening, is washed out with alcohol of 90 deg. strength. The quantity of injected alcohol varies according to the dimensions of the abscess. It is necessary that the quantity be sufficient for application to the whole of the internal surface of the cavity. The seat of the emptied and injected abscess is then covered by a dressing of camphorated *eau-de-vie*. On the following day there is an abundant secretion of dark-colored and thick fluid. The secretion diminishes in quantity from day to day, and, as it diminishes its density becomes lower, and its color lighter. In the ultimate stage of the treatment it presents a serous transparent fluid resembling lymph. When, on pressure, this serous fluid only can be forced out, and in small quantity, the abscess is on the point of becoming healed, there is no longer any cavity, the walls are adherent to each other, and there remains but the small incision, which closes in the course of two or three days. This method, M. Assaky states, has the following advantages: it necessitates only a small wound of the integument, and so there is less risk of the ordinary complications of wounds, and the cicatrix is small and is hardly apparent. The superiority of the method, however, consists chiefly in the considerable abridgment it effects in the duration of the treatment of chronic abscess. It is very evident, M. Assaky states, that the number of days occupied in the healing of an abscess by this method must depend on the extent of the sac. But all other things being equal, the duration of treatment, in a case of abscess punctured and injected after Gosselin's method, is much less than that of one submitted to ordinary methods. In small abscesses, and those of medium size, cure may be effected between the second and seventh days. This treatment may be applied to any chronic abscess that is circumscribed, and consists of one regularly shaped cavity. In most cases, one injection only of alcohol is necessary; but when the abscess is very large, two or three may be required. The indication for a repetition of the injection would be a persistent purulent discharge. The injection of alcohol into the inflamed tissues, it is asserted, is not very painful. The pain varies with the sensitiveness of the patients. One will complain of lancinating pains, and of burning or pricking sensations which will last from ten minutes to an hour, whilst another will not complain of any painful sensation. Sometimes; though rarely, the injection of alcohol is followed by more or less extensive sloughing of the skin. This result has seemed to M. Assaky to have been usually associated with too long delay on the part of the patient in applying for treatment, so that the seat of the abscess has become much inflamed, and the skin hot, red, and very tense. Associated with this condition there may be a further cause in some faulty diathetic condition of the patient.—*Gaz. Méd. de Paris*, Nos. 6 and 7, 1882.

**Eczema Aurium.**—Willie S., æt. two years. The child before you is brought here on account of an eruption which made its appearance in the neighborhood of the ears, about two and a half months ago. As you see, not only the cleft behind them, but also the auricles themselves, are involved. The inflammation, however, does not seem to have extended into the auditory canal to any appreciable extent. A hot, red tense and swollen surface, with a thin, serous fluid constantly bathing the parts; numerous small vesicles, in varying stages of development; a feverish state of the body, and constant fretting; a strumous diathesis, poor appetite and costiveness, all of which are present, mark the case unmistakably as one of eczema. The suffix of aurium designates the seat, not that it differs from the same variety in any other portion of the body.

This state of affairs has been going on for a period of two or three months, the symptoms becoming gradually worse, until life has become a burden to him, young as he is. If allowed to go on, the symptoms would probably not change, noticeably, except the discharge, which would become purulent. Indeed, it is so to a slight extent already. The only wonder is, that such has not been the case long ere this. Being a catarrhal inflammation essentially, it is more apt to assert itself in an intractable form when occurring in lymphatic children.

We must try to relieve the little fellow, and to this end will advise the following to be applied to the parts two or three times daily:

℞ Zinci oxidi.
Zinci carbonatis, ℔ 3 ij.
Glycerinæ, f ʒ iij.
Aquæ rosæ, q. s. ad., f ʒ iv.

M. Sig.—Shake well before using.

The surface is to be dried by pressing gently with a piece of soft muslin. Never wipe an inflammation. This lotion should leave a fine powder upon the surface, and by the protection which it affords the parts, the air is excluded. He shall have also:

℞ Potassæ chloratis, 3 j.

Fiat. chart. No. xx.

Sig.—A powder to be dissolved in water and taken thrice daily.

Were the patient older, we could administer cod-liver oil with advantage, but young children do not, in my opinion, assimilate it so well, and, moreover, will not take it. The chlorate of potassa here answers an admirable purpose as an alterative, and in the present case will, I feel sure, fulfill all the indications of the oil. Some time will be required to effect a cure, but I think we may safely predict success in the end. The mother will be directed to bring him back in a week, at which time he will be shown you, and any necessary changes in the treatment effected.—Clinic of Dr. F. Le Sieure Weir, reported in *Med. and Surg. Reporter*, Dec. 16, 1882.

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**Poisoning by Extract of Male Fern.**—It is well to be reminded that this favorite remedy for tapeworm has poisonous properties, and should always be prescribed with due care, especially with regard to individual peculiarities. A case in which death followed its administration recently occurred in India, and might have resulted seriously for the unlucky physician. As it was, a charge of manslaughter was brought against him, but the jury accepted certain explanations and the case fell through.

It appears that Dr. Coghill, of Colombo, ordered a Mr. Aitken, 30 years of age, a four-ounce mixture containing an ounce and a half of the ethereal extract of male fern. The chemist considered it a large dose, but thought it might be dispensed with safety. Half the quantity (representing six drachms of the fern) was taken at bedtime. This caused considerable distress, but as none of the joints were passed, he was instructed to take the remainder of the mixture about noon of the following day. Dr. Coghill was summoned soon after, and found that his patient had purged and vomited a great deal, although he had eaten nothing for some hours. He had, however, passed a large quantity of the worm. Choleraic symptoms continued, the pain only being relieved by a hypodermic injection of morphia, and the patient died about twelve hours after the administration of the second dose. At the autopsy, patches of congestion, and here and there actual extravasations, were found over the stomach and small intestines, the mucous membrane being smeared with a dark-brown fluid having the smell of ether.

At the inquest, it came out that Dr. Coghill was blindly led in his prescribing by the work known as "Naphey's Modern Medical Therapeutics." In a prescription in this book, credited to Dr. William Brinton, it will be found that "ounce" and a half has been substituted for "drachm" and a half as the dose of extract of male fern, and it was this that misled Dr. Coghill.

Of course he can hardly expect to be held blameless on this account, but, undoubtedly, the responsibility should be largely shared by the book in question; and our object in penning this article has been, as much as anything else, to warn unwary members of the profession, who may be in possession of Naphey's book, against the egregious error referred to.

Dr. Cobbold, perhaps the greatest living authority on the subject of intestinal worms, referring to this case in a recent number of the Lancet, states that he seldom prescribes more than one drachm of the ethereal extract of male fern for a single dose; but he has known two separate one-drachm doses to cause jaundice in an adult, and half that quantity to produce mental confusion in a child of seven years. He writes further that he has heard of an instance in which three drachms sufficed to produce alarming symptoms. He puts in a strong plea for the drug, and trusts that its fatal employment in the case under consideration will not deter the profession from resorting to it in the treatment of tapeworm. We might add that in our own limited experience, we have found no anthelmintic so efficacious as this in the treatment of tænia.—*Canada Med. and Surg. Journal*, Nov., 1882.

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**Acne.**—The young man before you to-day is an Englishman by birth, 21 years of age, and unmarried. His occupation is that of a laborer. About six years ago his face, which had previously been clear of any eruption, showed here and there small, red pimples, some of which pustulated, others again remaining stationary for a few days, and then disappearing. From being a few in number they gradually increased until he was 18 years old, at which time he began to shave. Since then the condition now observable has been present, new crops appearing to take the place of those which had run their course. His appetite has always been good, in fact, too good. Bowels inclined to constipation. He sleeps well; has never had gonorrhœa or syphilis. A close inspection of the face shows this eruption to consist of small, elevated points or pimples, which are solid, and have a feel not unlike the pustules of small-pox, vivid red in color, and causing some little sense of discomfort by the tension of the epidermis, commencing at or shortly after puberty, with no specific history, an evidently deranged digestion and habitual constipation.

These give us all that is necessary to know about the disease. Masturbation is a very frequent cause of this affection, or if not a direct cause, largely assists in keeping up the irritation. There is no history of such practice in this case.

He will be ordered 5 gr. doses of lactopeptine three times a day, to be followed by a bitter tonic. Also the following:

℞ Ext. cascara sagrada, fld., f ʒ j.

Sig.—Gtt. x, in sweetened water, before each meal and at bedtime.

This will have the effect of producing a free evacuation daily, and if he will continue its use for some time his constipation will yield permanently. I know of no drug which relieves habitual constipation so effectually as the cascara sagrada. Locally he shall have a soothing ointment of oxide of zinc and cosmoline, with a few drops of carbolic acid. The local treatment is secondary, for upon the relief of the dyspepsia and constipation a marked change will be observed. He will be directed to let the beard grow, thereby removing one potent cause of irritation.—Clinic of Dr. F. Le Sieure Weir reported in *Med. and Surg. Reporter*, Dec. 16, 1882.

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**Treatment by Large Doses.**—Dr. Seguin considers that the dose of many remedies ordinarily prescribed in certain nervous diseases—such, for example, as chorea, cerebral and spinal syphilis, and neuralgia—is too small. In advocating large doses he does so as the result of an extensive practical experience, and not on mere theoretical grounds. At the same time he takes all reasonable precautions, and says:—"I am carefully observant of all the circumstances which render patients susceptible, and always make an allowance for idiosyncrasy. Thus, in first prescribing a potent remedy, I take into consideration the age, sex and size of the patient, and also make an estimate of his general condition, and note particularly the state of his circulatory organs. Then for a patient whom I see for the first time, I order very small doses, doses such as the books justify, and by steady increase feel my way fearlessly because watchfully, to the larger doses, often seemingly dangerous doses, which really affect the organism and may cure the disease." Dr. Seguin gives Fowler's solution in doses of from three to thirty minims three times a day. In the case of children or sensitive adults he may commence with a dose of only two drops, but usually begins with five, every day adding one drop to each dose. He does not attach any very great importance to giving it after meals, but is careful to give it largely diluted with water—half a tumblerful or more. Usually when a dose of from ten to fourteen drops three times a day is reached, some arsenical symptoms appear, such as diarrhœa, nausea, vomiting, anorexia, or redness and puffiness about the eyes. When these symptoms are noticed the administration of the arsenic should be suspended for forty-eight hours, and should then be resumed, the dose being still further increased. A remarkable tolerance is shown by most patients—even young children; and doses of twenty, twenty-five, and even thirty drops, three times a day may be reached without a renewal of the symptoms. In one case thirty-four drops of Fowler's solution were taken three times a day without the production of any unpleasant symptom. The author has been taught by experience not to expect amelioration of choreic movements until the toxic effects of arsenic are evident, and in old or relapsing cases, not until the second period of toxicity. He finds it advisable to combine rest, even absolute rest in bed, with the arsenical treatment. If the patient be restless at night, an occasional dose of chloral will do good. Simple acute chorea may be cured by this plan in a fortnight, and it is rare to meet with any case of chorea that resists this mode of treatment. There is no possibility of any permanent ill effect resulting. The urine of many patients has been carefully examined at the period of saturation with arsenic, but albumen has never been detected. Stomatitis was met with only once, and gastro-intestinal disturbance was never serious or permanent.—*Trans. Med. Soc. New York*, 1882.

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**Revival of Blood-Letting as a Therapeutic Resource.**—In the Paris letter to the Lancet, the views of two of the most prominent practitioners of that city with regard to blood-letting are referred to as follows: "Professor Peter, who was one of Trousseau's most fervent disciples, and present editor of his clinical work, employs venesection on rather a large scale, particularly in cases of apoplexy and epilepsy, in which Professor Trousseau condemned it altogether. At his clinical meetings, and in his lectures at the School of Medicine, Prof. Peters teaches that, with all deference to his former master, he has found by experience that blood-letting, if judiciously employed, is invaluable in some cases, and apoplexy is just one of those in which it would be found useful. As in the days before the publication of Professor Trousseau's clinical works, Professor Peter practices blood-letting at the moment of the attack, with the hope off cutting it short, and he does so at a later stage with the view of facilitating the reabsorption of the clot of blood formed at the seat of the lesion, and to moderate the congestion in its neighborhood. On the strength of this theory, Professor Peter, at his clinic, lately bled a patient who was upwards of sixty for an attack of apoplexy and hemiplegia of the left side, and he declared at a meeting of the medical society, that this bleeding had been the means of saving the patient from imminent death. He employs general depletion even in the convulsions following apoplexy, with great benefit to the patient, as he had noticed that, notwithstanding the presence of a large quantity of albumen in the urine, the convulsions and the albumen had entirely disappeared after a small bleeding from the arm. Professor Vulpian employs blood-letting in its various forms in all cases of inflammation, and he has found it invaluable in peritonitis, whether from puerperal or other causes. At the Clinique d'Accouchement, Professor Depaul scarcely employs anything else in puerperal convulsions. He bleeds the patients largely and repeatedly until the most urgent symptoms are relieved, and he has frequently stated at the Academy of Medicine and at other medical societies that the results of the practice that he has carried out for more than a quarter of a century can bear comparison with any other method of treatment adopted by other physicians in similar cases, in fact, the mortality among his patients has always been considerably less."—*Medical Times.*

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**Treatment of Strumous Glands.**—The treatment of chronic caseating strumous glands has undoubtedly been improved in quite recent times. In the earlier stages the external application of iodoform in the form of its collodion is frequently of marked service, and when suppuration has taken place, the thorough local application of powdered iodoform and the enucleation of the glands are of great value in cutting short the affection and producing a quick recovery. In a paper in the Central. f. Chirurg., Dr. von Lesser points out that the disease in the glands often assumes the form of small caseous foci, which may become encapsuled and possibly calcareous, but are more likely to lead to suppuration, during which they are extruded, or to general tubercular infection. In view of these events he has, while the glands are still only indurated, attempted to enucleate these caseating portions of the glands. His operation is thus performed: Fixing the gland and pushing it forward under the skin with the finger and thumb of the left hand, he makes a small puncture through the skin and into the gland with a narrow knife. Through this wound he passes a small sharp spoon and scrapes the interior of the gland. The soft cheesy portions readily yield and come away, while the more healthy parts of the gland prove more resistant. If several glands lying close together are enlarged, he operates on them all, or on several through one skin wound, the spoon being pushed into one after another. By this means the disease is cut short, ulterior dangers are avoided, and unsightly scars prevented. Lesser recommends that the operation should be done with strict antiseptic precautions, and that care should be taken not to wound any large vessel, nor to leave behind in the wound any of the cheesy debris.—*Lancet.*

**The Therapeutics of Venesection.**—Dr. Wm. A. Dunn, in a paper read at the meeting of the Section for Clinical Medicine and Pathology of the Suffolk District Medical Society, summarizes his views as follows:

1. That although the errors of former days, without doubt, allowed a very great abuse of venesection, it has sufficient merit as a therapeutic agent to demand our earnest consideration.

2. If we are sincere in following the motto of our society, *Natura duce*, we shall take the suggestions which nature gives and bleed in carefully selected cases.

3. That in febrile attacks a loss of blood will lower the temperature, and this decrease in temperature is known to be disproportionate to the amount of blood lost.

4. That by venesection we do not actually diminish the volume of blood, but we cause the blood to become more watery, the free passage of the blood through the pulmonary circuit seems to be promoted, and the functional labor which the lungs have to perform is diminished by the abstraction of a certain number of the more solid particles.

5. It is fallacious to depend upon the condition of the pulse alone as the criterion of the amount of blood to be removed, or the benefit which the patient derives by a venesection. After a venesection the pulse sometimes appears to indicate increased power of the heart's actions. The artery seems to strike against the finger with more force than before the abstraction of blood. Formerly practitioners were misled by this effect upon the pulse, and blood-letting was employed as a means of increasing the power of the heart's action. The sensation which the finger receives is delusive, and is caused by the quickness of the movements of the artery. This has been shown by the sphygmograph to depend on the diminished tension of the arteries following the abstraction of blood. It is to be borne in mind, says Flint, in estimating the power of the heart's action by the sensible characters of the pulse, that the sense of resistance which is felt and the amount of pressure required to impress the artery are the evidence of strength.—*Boston Med. and Surg. Journal.*

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**How to Apply the Soda Remedy in Burns and Scalds.**—It is now many years ago (see the London Medical Gazette of March, 1844), that the author of this paper, while engaged in some investigations as to the qualities and effects of the alkalies in inflammations of the skin, etc., was fortunate enough to discover that a saline lotion, or saturated solution of the bicarbonated soda in either plain water or camphor ated water, if applied speedily, or as soon as possible, to a burned or scalded part, was most effectual in immediately relieving the acute burning pain; and when the burn was only superficial, or not severe, removing all pain in the course of a very short time; having also the very great advantage of cleanliness, and, if applied at once, of preventing the usual consequences—a painful blistering of the skin, separation of the epidermis, and perhaps more or less of suppuration. For this purpose, all that is necessary is to cut a piece of lint, or old soft rag, or even thick blotting paper, of a size sufficient to cover the burned or scalded parts, and to keep it constantly well wetted with the sodaic lotion so as to prevent its drying. By this means, it usually happens that all pain ceases in from a quarter to half an hour, or even in much less time. When the main part of a limb, such as the hand and forearm or the foot and leg, has been burned, it is best, when practicable, to plunge the part at once into a jug or pail, or other convenient vessel filled with the soda lotion, and keep it there until the pain subsides; or the limb may be swathed or encircled with a surgeon's cotton bandage previously soaked in the saturated solution, and kept constantly wetted with it, the relief being usually immediate, provided the solution be saturated and cold. What is now usually sold as bicarbonate of soda is what I have commonly used and recommended; although this is well known to vary much in quality according to where it is manufactured—but it will be found to answer the purpose, although, probably, Howard's is most to be depended on, the common carbonate being too caustic. It is believed that a large proportion of medical practitioners are still unaware of the remarkable qualities of this easily applied remedy, which recommends itself for obvious reasons.—F. Peppercorne in *Popular Science Monthly* for March.

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**Palpitation of the Heart.**—The British Medical Journal says:—"In the Appendix to the British Army Medical Department Report, Dr. Veale has given a summary of the ascertained or most probable causes of palpitation in the cases he has examined. Of these, malarial fever ranks highest, followed by intemperance, heat of climate, marching on active service, exertion generally, excessive smoking, hardships on active service, and several minor causes. He does not consider that the pressure of the valise or of the belts now occupies a prominent place, as it formerly did, although it may still contribute. He speaks very decidedly of the injurious effect of excessive smoking, although he hardly assigns to it as high a place among the causes as we should be inclined to give it, especially when combined with drinking. But it is a cause which it would be extremely difficult to abate, though probably something might be done in the way of issuing less "villainous stuff" to the soldiers than they are in the habit of smoking. "The soldier loves his pipe, and its value as a 'care-breaker' may be, and I dare say is, very great; much caution would therefore be needed in any attempt to curtail this luxury, but in the meantime it would certainly be good economy on the part of the Government to insist that such a deleterious substance as the 'twist' or 'stick' tobacco should never be sold in canteens, or issued to the troops on board ship, or in the field." If any one doubts the injurious influence of this tobacco on the heart's action, we recommend him to test it by taking the sphygmograph tracings of even an habitual smoker, before and after indulging in a pipe of it."—*Med. and Surg. Reporter.*

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**Nitro-Glycerine.**—This therapeutic agent which was introduced to the profession by Dr. Murrell, and whose physiological action was studied by Lauder Brunton, who embodied his conclusions in a paper contributed to the St. Bartholomew Hospital Reports for 1876, is coming into favor with some practitioners in the treatment of almost all cases of heart disease, and particularly in angina pectoris, and in weak, dilated and fatty hearts. The drug is similar in its action to nitrite of amyl, but slower in its effects and lasts from four to six hours. It paralyzes the vasomotor centres and dilates the peripheral arterioles. Dr. Green, M. R. C. S., Practitioner, Feb., 1882, cites a number of cases in which the drug was used with good effects. It relieves sudden congestions of the lungs in cardiac diseases, by bringing about a flow of blood to the surface. The same author has also used it with happy effect in puerperal convulsions. He believes that the greater number of these cases are due to anæmia of the brain, produced by a high tension of the arteries caused by their containing blood which has been imperfectly depurated, owing to the pressure of the gravid uterus upon the renal arteries; that the next most frequent cause is sudden and exhaustive hemorrhage, and that the drug controls the convulsions by relieving the consequent anæmia of the brain.—*Indiana Medical Journal.*

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**On the Treatment of Contracted Fingers.**—A powerful man some months ago scratched his little finger with a meat-bone. The usual train of symptoms followed, and when I saw him the tip of the

little finger was so tightly approximated to the palm that no force could separate it, and strong fibrous bands corresponding with the primary flexures were readily observed; and, as I thought the tendon was uninvolved and still ran in a tolerably free theca, I divided the bands with a Von Graefe's iridectomy-knife, which is singularly useful for fine plastic work, and extended the fingers forcibly. No good came of this proceeding. I subsequently placed him under an anæsthetic, and carefully and thoroughly extirpated the entire cicatricial tissues, and divided the tendon, with antiseptic precautions. The finger was carefully retained in the straight position, a metal circlet was made for the wrist, and a piece of stout steel clock-spring welded on to it. This steel spring was carried up the dorsum of the finger and suitably attached to it. By its tension it effectually kept the parts on the stretch, and, when the wound had healed, passive and active movements, conducted by the patient himself, brought about an excellent result. The finger is as straight as the others, and will be, no doubt, ultimately quite as useful.—Edward Bellamy, in the *Lancet.*

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**Treatment of Malignant Pustule by Iodine.**—Dr. Poladura, in La Revista de Medicina y Cirugia Praticas, relates the following case of malignant pustule, apparently cured by the hypodermic use of iodine. The patient was a shepherd, aged forty-one, of sanguine temperament and good constitution. Five days before he was seen, he presented the local and constitutional signs of malignant pustule of the face. The treatment consisted in incisions, excisions, the actual cautery, and antiseptic and emollient applications. During the next two days following, the œdema and induration had attained such a degree as to constitute a veritable monstrosity; the temperature was 40° C., and there was vomiting and great prostration. Tincture of iodine was given internally and antiseptic applications continued. Ten hypodermic injections of a two per cent. solution of tincture of iodine were administered around the zone of induration. Subsequently the symptoms became aggravated. Injections were again practised at various spots in the œdematous region. The next day the delirium, as well as the sweats and chills, had disappeared, and the pulse was stronger. An inflammatory circle was visible at the margin of the eschar. Treatment being continued, a cure resulted.—*Rev. de Ciencias Med.*, June, 1882.

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**Treatment of Bubo.**—The Revista de Ciencias Medicas, gives the following account of a case of bubo treated according to an Italian method: The chancroid at the end of several days had almost cicatrized, and the bubo presented fluctuation. The patient was placed in the dorsal decubitus, with the extremities semiflexed. The tumor was grasped at its base and pressure exercised. With a straight bistoury of narrow blade a puncture was made at the highest point. The instrument being withdrawn and the pressure still kept up, the contents of the abscess were evacuated *ad maximum*. A solution of cupric sulphate (30 ctgrs. to 30 grammes) was then injected in sufficient quantity to cause the abscess to regain its primitive size. After two minutes the liquid was allowed to escape and a graduated compressed applied. An inguinal bandage was adjusted to keep up moderate compression. On the following day there was slight tumefaction without pain, and the edges of the incision had united. Four days later the small wound had cicatrized without pain or increase of volume. Compression was then suspended and the patient discharged.—*Medical Record.*

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**Treatment of Vomiting in Pregnancy.**—Prof. C. Braun, of Vienna, reports a case to which he was summoned, the patient being regarded as moribund. She was in the first half of her pregnancy and extremely reduced in consequence of intractable vomiting. The physician in charge had decided on producing premature delivery as a last resource. Braun, who has often opposed this practice, decided instead to bathe the vaginal portion of the cervix with a ten per cent. solution of nitrate of silver. This was done, and the surface quickly dried to prevent further cauterization. The success of the treatment was so immediate and so great that an hour afterward the patient enjoyed a meal of roast veal, and there has been no vomiting since. Prof. Braun thinks that hyperemesis should be expunged from the list of indications for artificial abortion. He has never seen a case of death from hyperemesis. In France, where abortion is frequently induced to relieve this symptom, it is found that the vomiting is thereby stayed in only forty per cent. of the cases, while in ten per cent. the operation has been fatal.—*Allgem. Wiener Med. Zeitung.*

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**Koroniko in Chronic Dysentery.**—The Practitioner quoting from the Chinese Imperial Maritime Customs Medical Reports gives the value of the above named drug in dysentery, which was very prevalent in that community during the autumn of 1880. Acute dysentery had generally become subacute or chronic before the patients applied at the hospitals, so that the chronic form had generally to be treated. As every one knows, these are the difficult cases to influence speedily by drugs, and with the Chinese a change of air or sea voyage is out of the question. In these cases Dr. Jardine was induced to try koroniko, from the veronica parviflora, which is largely used in New Zealand as a remedy in dysentery and diarrhœa, and some of the results exceeded his most sanguine expectations. Many who received the drug did not return to report themselves, but he has notes of three cases of chronic dysentery, varying in duration from six weeks to four years, and voiding from twenty to thirty motions containing blood and mucus daily. Fifteen doses of tincture koroniko reduced them to one-half, fifteen doses more reduced them to three or four daily and a third like quantity effected a complete cure. Judging from the few cases he has been able to follow, he predicts a brilliant future for this remedy in the chronic forms of the disease.—*Chicago Medical Review.*

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**Sulpho-Carbolate of Sodium in Vomiting.**—The use of the sulpho-carbolate of sodium in flatulent dyspepsia is well known. It is not, perhaps, so generally known as a remedy for the vomiting of pregnancy. I have used it in this affection for several years, and find it rarely fails to give some relief. In some cases the benefit is extremely marked. I give it in doses of seven grains in half an ounce of water. Though sometimes decidedly useful in the vomiting of displaced or other abnormal conditions of the uterus, it is less uniformly so than in pregnancy, probably because flatulence is a less constant factor in the former cases. Where deep nerve disturbance exists, we must trust to more powerful remedies, hypodermic morphia or atropine, or surgical procedures. The drug will, perhaps, be useful against sea-sickness, taken every two hours from the time of sailing. In one case—the only one tried—it appeared to have a good effect.—Philip Miall, in *British Med. Jour.*, Dec. 16, 1882.

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**Syphilis.**—Syphilis was introduced into Europe in 1492, and first treated by inunction in 1497. Paracelsus first gave mercury internally in 1570; and until 1812, in this country, there could be little doubt that mercury had poisoned fatally perhaps as many patients as had been killed by syphilis, which until 1836, when Wallace of Dublin published in the Lancet his account of the treatment of tertiary syphilis by iodide of potassium, must have been a terrible disease.—*Dr. Drysdale, of London.*

**Treatment of Tape-Worm by Male Fern.**—In a communication to the Société Pratique, M. Duchesne states that he had used the following preparation with uniform success in the treatment of tæniæ:

℞ Ext. filicis maris æther , 4 gr.;
Sacchari, 8 gr.;
Hydrarg. chlor. mitis , 0.40 m.

Make with gelatin and water into a jelly, to be given at one dose to a child five years of age. In adults, he uses capsules containing 50 cgm. of ethereal extract of male fern, with 5 cgm. of calomel, one of these to be given every five minutes until sixteen are taken. He recommends that the patient seat himself during defecation upon a vessel full of water, so that the worm may be expelled without being broken by its own weight. Otherwise it is often difficult to decide whether the head has been expelled or not.—*Journal de Médinine de Paris.*

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**Treatment of a Cold.**—The following is recommended by M. Vigier as a pectoral in place of the nostrums so commonly used:

℞ Syrup adianti (s. capillaire), 200 grm.;
Ext. opii, 0.10 grm ;
Ext. hyoscyami, 0.20 grm.,
Ext. aconiti (aq.), 0.30 grm.

Dissolve the extracts in distilled water (about 3 or 4 grms.), filter, and add the syrup. This is to be taken in tablespoonful doses three or four times daily. —*La France Méd.*, No. 18, 1882.—[Probably the aqueous and not the alcoholic extract of aconite is meant.—*Ed. Med. Times, Philadelphia.*

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**Sulpho-Carbolate of Sodium in Vomiting.**—The use of the sulpho-carbolate of sodium in flatulent dyspepsia is well known as a remedy for the vomiting of pregnancy. I have used it in this affection for several years, and find it rarely fails to give some relief. In some cases the benefit is extremely marked. I give it in doses of seven grains in half an ounce of water. Though sometimes decidedly useful in the vomiting of displaced or other abnormal conditions of the uterus, it is less uniformly so than in pregnancy, probably because flatulence is a less constant factor in the former cases. Where deep nerve disturbance exists, we must trust to more powerful remedies, hypodermic morphia or atropine, or surgical procedures. The drug will, perhaps, be useful against sea-sickness, taken every two hours from the time of sailing. In one case—the only one tried—it appeared to have a good effect.—Philip Miall, in *British Med. Jour.*

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**Religion as a Therapeutic Help.**—It is not often that scientific men enroll religion among therapeutic agencies. Dr. Stephen S. Alford, however, in an article on the Practical Treatment of Dipsomania, does this. After recommending total removal of alcohol from the patient in acute attacks, with substitution of bromides, capsicum, Russian baths, acidulated drinks, diluent foods, etc., he advises tonics and a gradual education of the moral strength. He says, "Religious influence is important in the second and subsequent stages of treatment, and to sustain the abstinence that must be religiously observed under all circumstances throughout life. This conquest of self, and keeping the morbid craving in subjection, few men can accomplish. At times even after years of abstinence, the desire will be most distressing and overpowering. It is refreshing, under such circumstances, to recognize and experience the existence of a Higher Power, who will give the necessary help to all who really believe in it and ask for it.—*Boston Journal of Chemistry.*

**Oenas Afer—A New Vesicant.**—Dr. José Armengue, of Barcelona, has lately brought to the notice of the profession a new vesicant, which in many respects would appear to be far superior to the cantharides. The new material is derived from the *Œnas afer*, a coleopterous insect, which at certain seasons of the year appears in enormous quantities in many parts of Spain. From experiments which Professor Armengue has instituted on his own person, and on that of several medical students, he is led to claim for the *Œnas afer* as a vesicant the following advantages over cantharides: it is cheaper; it acts without appreciable pain; it is equally powerful; and it does not, so far as his experiments have yet shown, affect the genito-urinary system. If its non-inflammatory action can be established by further experiment, it is probable that the *Œnas afer* will be a valuable addition to the materia medica.—*British Med. Journal.*

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**Sulphuretted Hydrogen in Tuberculosis.**—Prof. Arnoldo Cantani has been experimenting with sulphuretted hydrogen in the treatment of tuberculosis. The reputation of certain sulphur-springs, as well as the known properties of the antiseptic, led him to regard the treatment as hopeful. He administers the gas partly in solution and partly by inhalation in a special chamber. He finds so far, that: (1) The inhalation of an atmosphere strongly impregnated with sulphuretted hydrogen can be well borne for a considerable time by most patients; those who find it irksome at first soon get used to it. (2) The patients usually become free of fever in a day or two. (3) The local changes appear not to increase, and the cough becomes less.—*Centralb. f. med. Wissensch.*, April 22, 1882.

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**Potassium Permanganate A Dangerous Internal Remedy.**—The virtues of permanganate of potash as an antidote to the venom of the Brazilian bothrops have been much discussed of late. M. de Lacerda seems to have obtained satisfactory results in his practice in Brazil. He injected hypodermically an aqueous solution, with the permanganate to a hundredth, and by means of a Pravaz syringe. The experiments of Vulpian and Couty have shown, however, that although the solution may be efficacious when applied at once to the wound, and when the venom has not been absorbed, yet the effect is null at a little distance from the wound, the permanganate being decomposed in the blood. A large dose, on the other hand, would be mortal in its effects. Experiments with animals show that treating zymotic diseases with permanganate of potash should be entirely abandoned.—*Weekly Drug News.*

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**Treatment of Venereal and Common Warts.**—Prof. Unna recommends for the treatment both of venereal and of ordinary warts the continuous application of unguentum hydrargyri, containing 5 per cent. of arsenic. In the case of a young girl upon whose hands were a hundred or more warts, the application for three weeks of a plaster, containing in each 0.2 square metre 10 grammes of arsenic and 5 grammes of mercury, caused entire disappearance of the disease without any irritation of the healthy skin. Cure was effected not by necrotic destruction of the warts, such as occurs in the use of caustics, but by resorption, as in cases of spontaneous cure.—*Monatschrifte für prakt. Derm.*, No. 3, 1882.

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**A Difference with a Distinction.**—Alphonse Karr, talking of food adulteration, remarked: "It's very curious, isn't it? If I poison my grocer, the very lightest sentence will be hard labor for life; but if my grocer poisons me—ah, that's a different thing! —he is fined forty francs!"

## New Remedies.

**Eucalyptus Globulus.***—The eucalyptus globulus is a native of Australia and belongs to the natural order of myrtaceæ—the same order that gives us our clove, cajeput, and pimento. The flora Australiensis informs us that there are 134 species as natives of that continent, and only two or three species are found to grow in any other land. Most of these species secrete a resinous substance, and are, consequently, known to the inhabitants of Australia as "gum trees." A few of the species I will name: The e. piperata, e. robusta, e. colophylla, e. manna, e. corymbosa and the e. resinefica. The common name of the latter species being the white gum tree of Van Diemen Land. The colonists classify them by the bark which is either smooth, rough or scaly. Species of the eucalyptus not only exist in Australia in great profusion, but form the largest trees of the forest in that part of the world. A modern writer upon the plants of Van Diemen Land says: "The eucalyptus seems as if it had taken undisturbed possession of those Australian regions, clothing as it does with a stupendous mantle, the surface of Van Diemen Land and New Holland, while the intermixture of other plants which this lordly tribe permits, is, compared with its own great extent, but small and partial. Wherever you go, one species or another is constantly before you." These trees are not only magnificent in appearance, being an evergreen, but they are gigantic in size, growing frequently from two to four hundred feet in height, from thirty to sixty feet in circumference, and from fourteen to twenty feet in diameter. They often become hollow, and are then used by the traveler as places of shelter at night. The eucalyptus is also one of the most valuable trees which grow on that continent, on account of its great strength and durability. The bark of the species known as the e. resinefica is so hard that the inhabitants of that country call it the "iron bark tree." The leaves which contain the medicinal virtues of the tree are always large, or rather long in size, and are so very variable in form and other characters, at different ages of the tree, or in different situations, that it is a matter of difficulty to know how they are to be botanically distinguished from each other. In fact the subject of the distinction of species has hardly yet been taken up; no botanist feeling competent to undertake the task without a better acquaintance with the plants in a native state. One great peculiarity of the leaves of the eucalyptus while growing is that they do not present one of their surfaces to the sky and the other to the earth as is the case with the trees of Europe and America, but are arranged with their faces vertically, so that each side is equally exposed to the light, thus giving it a strange but beautiful appearance.

The properties of the eucalyptus globulus are tonic anticatarrhal, antiseptic, antiperiodic and diuretic. "It is from the leaves and flowers that the medicinal portions are obtained. Still the wood contains them all, but in a lesser ratio, and less available form." Many physicians suppose that the active medicinal principle is found only in the resin, or oil contained in the plant, but we have evidence that an infusion of the leaves cures equally as well as the tincture or the fluid extract. It is, I believe, an undisputed fact, that tinctures and extracts made from the leaves of trees growing in Australia, where they are indigenous, are far preferable and act more promptly than those made from trees grown in California and other countries where they have been transplanted or grown from the seed. Besides its therapuetical value, of which we shall speak further on, the tree in its living presence is invaluable as a prophylactic to certain diseases arising from exposure to malarial miasm. Sections of land that were untenable, owing to malarial influence, have been rendered healthy, the land has become beautiful, and miasma has forever ceased to exist by planting the eucalyptus trees in such neighborhoods. There are two causes which are supposed to produce this result, the first being their rapid growth. In Florida a growth of five feet in four months has been recorded. In California a growth of forty feet in height and one foot in diameter, has been obtained in four years. This extraordinary growth must furnish a rapid drainage to the neighboring swamps. Dr. Zimbert by a mathematical calculation states that the eucalyptus tree draws ten times its own weight in water from the soil in which it grows, every twenty-four hours. Second: the balsamic aroma given out by these trees, destroys or neutralizes the miasma, with which the air is impregnated.

With these remarks I will make no further draft upon your time and patience in tracing the history of this valuable and comparatively new remedy, but will at once proceed by reports of cases treated, and by my own experience, to an investigation of its therapeutic action and uses, which to us, as physicians, is of far more practical value.

"The first experiments upon its anti-febrile properties were made by Dr. Tristany, in Spain, in 1871. They were corroborated by the trials made by Bumel, of Montevidio, and since then by the leading practitioners of most civilized countries." Before proceeding further I will just note that Dr. Logan, of Kern County, California, after giving the anti-malarial influence of the eucalyptus a fair trial upon his own form says: "This is cultivated by two Chinese companies; one company lives on the north and the other on the south end of the premises about three-quarters of a mile apart. The localities inhabited by both parties are favorable to the development of malaria, and as might be expected, they have every year during the heated term suffered with malarial fever. Last winter we determined to test the much-vaunted virtues of the eucalyptus. In February we gave to the party at the north end two ounces of seed, with directions that they should be planted near the house. They germinated finely, and produced several thousand of the young plants, but the frost killed most of them. About 1,200, however, survived. These, when the heated term had commenced, had obtained a height of about two feet, and emitted a strong aromatic odor, perceptible at a distance of a hundred yards. In due time the parties at the south end were visited by their usual mildly distressing fever, but up to the present time (about the middle of the season) we have looked in vain for the first symptoms to develop in the other. They are all, to their own astonishment, in robust health. These trees now average about three feet in height, and the atmosphere of the houses is strongly impregnated with their odor." The doctor then adds: "that though carefully searching for hygienic causes other than the eucalyptus, none could be found." He has since planted all the waste places of his farm with the trees, so firmly does he believe in their anti-malarial influence. Doctor Wooster, of San Francisco, California, in a report of 136 cases of various diseases treated exclusively with fluid extract of eucalyptus globulus gives the following results:

Remittent fever: cases 5, cured 5.
Intermittent fever: cases treated 9, cured 9.
Typhoid fever: cases treated 9, cured 9.
Nephritis: cases treated 4, cured 3, improved 1.
Diuresis: cases treated 10, cured 7, improved 3.
Incontinence of urine: cases treated 3, cured 3.
Vesical catarrh: cases treated 27, cured 25, improved 2.
Blennorrhagia: cases treated 13, cured 10, improved 3.
Valvular disease of the heart: cases treated 7, cured 0, improved 7.
Dysentery: cases treated 4, cured 3, improved 1.
Chronic diarrhœa: cases treated 13, cured 9, improved 4.
Gonorrhœa (syphilitic): cases treated 15, cured 10, improved 5.
Dropsy: cases treated 6, cured 3, improved 3.

* Read before the Eclectic Medical Society of the State of New York, Oct. 19, 1882, by D. E. Smith, M. D., Brooklyn, N. Y.

Of the whole number of cases 106 were cured and 29 improved.

Dr. Keller, physician-in-chief of the Australian Railway Company, reports the following cases with results as treated with eucalyptus. The total number of malarial cases was 432. Of these 310, or 71.76 per cent. were cured, 132 required a supplementary course of quinine. Of those cured (310) 202 needed but a single dose of the remedy (the tincture), and the remaining 108 cases had one or more subsequent paroxysms. Quinine had been given previously to the eucalyptus in 118 out of the 432 cases. Of the 122 cases in which the remedy failed, 58 were cured with quinine, 10 were sent home, 16 remained under treatment and 18 remained in *statu quo*. Out of the 118 cases in which the quinine had been previously given but failed in arresting the disease, 91 recovered under the influence of eucalyptus, the remaining 27 were not benefited. The several types of fever were as follows: Complicated quotidian 117, simple 73, total 190. Complicated tertian 126, simple 95, total 221. Complicated quartan 16, simple 4, total 20. Complicated quintan 1. The complications were splenic and hepatic engorgements, anæmia, chronic gastric catarrh, paludal cachexia, etc. The remedy proved itself successful in 161 (61.9 per cent.) of the complicated cases, and in 149 (86.6 per cent.) of the simple cases. Cures classified according to the types, we find successes in the tertian to have been 75.57 per cent., in the quartan 70 per cent. The remedy, in a single dose, arrested the disease in 107 simple and 95 complicated cases. The treatment was generally commenced on the fifth day after the paroxysm, and the average duration was but 9½ days, whereas, in previous years when quinine was employed 12½ days was the average time of treatment. The tincture was made by macerating the leaves in alcohol for three months. Ten pounds of the leaves yielded twenty-five quarts of the tincture. The average dose was two drachms, and the average quantity used per patient was seven drachms.

Dr. Talbot, of Ohio, gives us the following cases as a representation of what the eucalyptus is doing for him in malarious cases: "Mrs. V., æt. 38, a farmer's wife, very much emaciated, having suffered from intermittent fever for several months, which had assumed the double quotidian type. For the last ten days she was not able to be out of bed. The paroxysms came on regularly at 7 A. M. and 10 P. M., and were accompanied with very slight chilly sensations and some coldness of the feet, followed by very high fever and profuse perspiration. I gave her very large doses of quinine without any effect; also gave arsenite of potash with the same result. I then gave sixty drops of fluid extract of eucalyptus every hour and a half, commencing in the sweating stage, and continuing it until the time for the next paroxysm. She did not have any return of the disease, and has continued well ever since. Mr. C., æt. 25, German baker, had been treated for remittent fever for eight days, by my friend, Dr. B., of this place, and he had been giving him very large doses of quinine, without interrupting the paroxysms. He became dissatisfied and sent for me. I gave him sixty drops every hour and a half of the fluid extract of eucalyptus, commencing during the sweating stage, and continuing until he had six doses. He had no more fever, and commenced his usual occupation in a few days."

Dr. Leary in a recent discussion before the Kings County Medical Society, says: "that for four years I have used it as nearly a specific in gonorrhœa. I noticed then its great diuretic powers, and have since given it in ten minim doses of the fluid extract, in cases of dropsy, and always with benefit."

Dr. Walcher in the Gazette Medicale de Strasburg, February 1, 1877, says of this remedy: "I have employed it with benefit, in doses of from two and a half to five drachms per diem, in cases of chronic bronchitis in old people, and in cases of pulmonary gangrene, that recovered." He then tried it in several cases of croup, and it succeeded beyond his expectations; in one case the coat of the entire trachea, and the first and second bronchial bifurcations were coughed up, and the patient, a child five years of age, recovered.

Dr. A. B. Woodward, of Tunkhannock, Pa., with whom many of us are acquainted, speaking of the eucalyptus globulus, says: "I have used it extensively in malignant scarlet fever and diphtheria, and when the medicine is pure and good, it will change malignant types into simple types in a very short time, and stop the putrid scent, so often present, within twelve hours."

Professor John E. Brasket, of Howard University, Washington, D. C., has reported sixteen cases of chronic malarial poisonining that had resisted all other treatment in the wards of the Providence Hospital, that recovered under the use of the eucalyptus.

Dr. Mulheron, of Detroit, has used it in severe cases of cystitis, and cured his patients when all the ordinary remedies had failed.

Dr. A. J. C. Skene, in his work on diseases of the female bladder and urethra, recommends it in obstinate cases.

With these remarks regarding the history of the eucalyptus globulus and its therapeutic uses in the hands of others, I will give my own experience. I have used the remedy in my practice for about three years. I have given it in many cases of sickness, but principally as a febrifuge and as an anti-malarial agent; I have no reason to find fault with its action, for where I have prescribed it, and a good article has been furnished, it has always given relief to the patient and satisfaction to myself. The first patient on which I had occasion to use the eucalyptus was a Mrs. J., of East New York. She had been afflicted with chronic malaria for about eighteen months. She had no perceptible chill, but in its place a peculiar yawning sensation, coldness of the feet and hands, with aching of the feet and limbs. These symptoms were succeeded by a high fever and a severe headache, which lasted some three or four hours, and were followed by a profuse perspiration. She was pale and anæmic, with no appetite, depressed in spirits, and was very much out of sorts. The above symptoms were present every day, but were all much aggravated on the alternate days. I gave her quinine in both small and large doses, without any apparent benefit. I also prescribed for her the chinoidine pills, which were taken with no perceptible relief. I then ordered for her the compound tincture of cinchona, which was followed up for at least two weeks with no interruption of the fever. As a last resort in this unusually obstinate case, I prescribed eight drops of Fowler's solution three times a day after meals. This also, after a fair trial, failed to give relief. I had read of the virtues of the eucalyptus globulus, in just such cases, and I resolved to test the medicine upon this patient. In accordance with this resolution I wrote the following prescription:

℞ Fluid ext. eucalyptus globulus,
Glycerine,
Simple syrup, ăă ʒiv.

M. Sig. One teaspoonful once in four hours.

She had no fever or perspiration after the first dose. I ordered her to continue the medicine until all was used. She was soon restored to her usual health. This prescription permanently cured her.

I soon had another opportunity of clinically testing the curative power of this medicine.

I was called in council to see a woman suffering with typhoid malarial fever. The patient was 75 years of age and had been under treatment for four weeks. At the time I first saw her she was greatly emaciated. The pulse was 110, temperature 104; no appetite, headache, with extreme prostration. The fever was of the remittent type. I learned from her physician that all the usual anti-malarial, antiperiodic and fever remedies had been given her without any marked benefit. The disease was complicated with a congested condition of the lungs, cough, shortness of breath, etc. I advised an expectorant for the cough, when troublesome, and ten drops of the fluid extract of eucalyptus globulus to be given

once in four hours, with the recommendation that it be increased one drop daily until fifteen drops had been reached, and then to continue it at that.

I met her physician daily and watched the patient closely. The fever gradually subsided, and at the end of one week it had entirely disappeared. The patient rapidly convalesced. The attending physician and myself agreed that the cure was chiefly to be attributed to the eucalyptus given. I have treated many cases of different forms of fever with this remedy with like results. With these remarks upon this comparatively new remedy in fever, and thanking you for your patience in listening to the contents of this paper I will close.—*Medical Tribune.*

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**Convallaria Majalis.**—(*Lily of the Valley.**)—This exquisite plant, indigenous in the high Alleghanies of Virginia and southward, and universally admired as a garden-flower, which Asa Gray, with a touch of true poetry, describes as a "low perennial herb, with slender running rootstocks, sending up from a scaly-sheathing bud two oblong leaves, with their long sheathing petioles enrolled one within the other, so as to appear like a stalk, and an angled scape bearing a one-sided raceme of pretty and sweet-scented, nodding flowers," has recently come prominently into notice as a medicine.

The plant had been used from time immemorial by the peasants of Russia as a remedy for dropsy, and acting upon this popular suggestion, Troitzsky and Bojawlensky, in 1880, made it a matter of experiment in the treatment of certain heart affections, obtaining good results, which were afterward confirmed by Professor Botkin, of St. Petersburg; but it attracted little or no attention from therapeutists until last July, when Prof. Germain Sée, of Paris, presented to the Academy of Medicine an alkaloid obtained from the plant, and detailed a series of experiments which seem to place beyond doubt the value of convallaria as a remedial agent.

The alkaloid, *convallarine*, was isolated by Dr. Hardy, who has the honor of having given pilocarpin to the medical profession. The new principle, which is an amorphous, bitter glucoside, obtained from the flowers by treating their aqueous extract with alcohol and chloroform, is analogous to digitaline in its physiological action, and being without many of the inconveniences of the latter seems competent to relieve some of the phases of cardiac disease (particularly those which are characterized by enfeebled circulation and asystolism) in which digitalis is not infrequently given without effect. Although the active principle will probably be selected for general use, Prof. Sée has employed with good results in his practice, and with striking effect on animals, an aqueous extract of the leaves, of the flowers, and of the whole plant—root, leaves and flowers. He finds a watery infusion of either the leaves or the flowers a good form for the practical exhibition of the plant. In experimenting on animals Prof. Sée finds that a drop of the extract of the flowers in contact with the naked heart of a frog arrests its action in systole in about two minutes. The same phenomenon is observed when the drug is introduced under the skin. In a dog four drops of the extract injected into a vein causes death in ten minutes by arrest of the heart. "The heart is first slowed and the respirations quickened, then the heart's action becomes irregular and the pulsations become faint and very rapid; the blood-pressure first augments and then is lowered, the respirations become slower and slower; the heart's action ceases, pressure falling to zero, and the respiratory movements cease in their turn. The excito-motor power of the nerves and nerve-centers is unaffected. The excitability of the pneumogastric is weakened, not destroyed. No diuretic effects were observed in the dog;" but the writer states that the active principle produces marked diuresis in man.

Prof. Sée gives an analysis of twenty cases of cardiac disease in which he has tested clinically the power of the drug. Among these were five patients with mitral insufficiency, "characterized by want of rhythm, œdema of the limbs, dyspnea, inability to ascend stairs, asystolism more or less pronounced." To these the extract of convallaria majalis was given in doses of from seven and one-half to fifteen grains, with the following effects: The heart was made stronger and its beats more regular, the breathing improved, the kidneys passed off large quantities of water, and the edema disappeared. A case of mitral constriction was speedily relieved of edema and other symptoms, two cases of primary dilatation of the heart were treated successfully, and several cases of aortic insufficiency were relieved of the more distressing symptoms. "In three cases only of the twenty was the medicine given without success. One was complicated with lead-poisoning, another was too far advanced for any remedy to take effect; the third was a case of atheromatous disease of the heart, aorta, and arteries, with interstitial nephritis. There was even in this patient an amelioration for a few days."

Dr. Sée's conclusions are as follows:

1. The convallaria majalis constitutes one of the most important cardiac remedies which we possess.

2. In the form of the aqueous extract of the entire plant (which is a very convenient way of giving the medicine), administered in the dose of from one-half gram to one and one-half grams daily, the convallaria produces on the heart, blood-vessels, and respiratory organs effects constant and constantly favorable; to wit, slowing of the beatings of the heart, with often a restoration of the normal rhythm, and, on the other hand, augmentation of the energy of the heart, also of the arterial pressure; in fine, the inspiratory force is increased, and the *besoin de respirer* is less injurious, less painful.

3. The effect is most powerful, the most constant, and the most useful is the abundant diuresis, which is above all things essential in the treatment of cardiac dropsies.

4. The therapeutic indications are summed up as follows: (*a*) In palpitations resulting from a state of exhaustion of the pneumogastric nerves (cardiac paresia), the most frequent source of palpitations. (*b*) In simple cardiac arythmia, with or without hypertrophy of the heart, with or without lesions of the orifices or valves of the heart. (*c*) In mitral constriction, especially when it is accompanied with failure of compensation on the part of the left auricle and right ventricle; the contractile force augments visibly under the convallaria, as the sphygmograph testifies. (*d*) In mitral insufficiency, especially when there are pulmonary congestions; and when, as a consequence, there is dyspnea with or without nervous trouble of the respiration. (*e*) In Corrigan's disease the peripheral arterial pulsations disappear, and respiration becomes markedly restored. In dilatation of the left ventricle without compensatory hypertrophy, it restores energy to the heart, which otherwise tends to become more and more feeble and dilated. (*f*) In dilatations of the heart with or without hypertrophy, with or without fatty degeneration, with or without sclerosis of the muscular tissue, the indications of the convallaria majalis are clear. (*g*) In all cardiac affections indifferently, from the moment that watery infiltrations appear, the convallaria has an action evident, prompt and certain. (*h*) In lesions with dyspnea the effect is less marked. To combat cardiac dyspnea convallaria is inferior to morphia and especially to iodine, but morphia suppresses the urine, and the preparations of iodine are every way preferable. The combination of convallaria majalis with iodide of potassium in the treatment of cardiac asthma constitutes one of the most useful methods of treatment. Finally, in cardiopathies with dropsy the convallaria surpasses all other remedies. One

*In preparing this article we have drawn our facts chiefly from a comprehensive paper on Convallaria Majalis, by E. P. Hurd, M. D., Newburyport, Mass. (Med. Record, September 9, 1882), who obtained the results of Prof. Sée's observations and experiments from the Bulletin General de Therapeutique for July 30, 1882. We have also made use of the Paris Correspondence of The Lancet of July 15th. The conclusions of Prof. Sée are quoted verbatim from Dr. Hurd's article.

is often obliged to suspend the employment of digitalis on account of vomiting, digestive disturbances, cerebral excitation, the dilatation of the pupil which it so often produces after a prolonged use of this medicament, etc.

The final action of digitalis is exhaustion of the heart, increase with enfeeblement of the heart's pulsations—just the opposite effects from what we seek when we give the drug.

Convallaria majalis has no deleterious effects on the economy, and has no cumulative action.

Dr. E. P. Hurd, of Newburyport, Mass. (see note, first page of this article), "states that certain eclectic practitioners in this country have for years prescribed the lily of the valley in cardiac dropsy," while Messrs. Parke, Davis & Co., of Detroit, Mich., have for some time advertised the cardio-tonic virtues of the plant in terms almost identical with those employed by the distinguished French professor. The writer states that he has recently employed a liquid extract of lily of the valley manufactured by this house in two cases of cardiac disease with satisfactory results. Reports of these cases are given in detail. One was in a patient suffering from Corrigan's disease—partly compensated; the other a case of aortic and mitral insufficiency, with enormous dilatation and marked asystolism. The first case was wonderfully improved after taking the drug but a few days. The other improved somewhat in symptoms, the patient being rendered more comfortable through the action of the medicine; but of course no permanent good effects of treatment could be hoped for in a case presenting such extensive organic disease.

From the foregoing we are led to believe that by the introduction of convallaria our materia medica is enriched by a drug of great therapeutic value; while this elegant little plant, whose tiny clustering bells and scented breath have so often ministered to the esthetic needs of man, will awaken still finer emotions in the heart of him who loves the beautiful since it has been made to take rank among the substantial benefactors of mankind through the divine art of medicine.—*Louisville Med. News*, Sept., 1882.

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**Convallamarin.***—At a time when the attention of the medical public has just been called to the lily of the valley (*Convallaria majalis*), I have thought it would not be without interest, to complete, from a pharmacological point of view, the communications of Messrs. Sée and Langlebert.

Those authors have attempted to ascertain which is the most active part of the plant, but without, in my opinion, arriving at any very clear conclusion. In fact, the roots did not give the results sought for; on the other hand the extract of the flowers exercised a very energetic action upon animals, but produced much less intense effects upon man, while an infusion of five or six grams of flowers remained without effect. The leaves showed so little activity that an extract from them required to be given in a dose three times larger than that of the extracts from other parts of the plant. In short, the best results were obtained with aqueous extracts prepared from the flowers and stems, with an addition of one-third of their weight of roots and leaves.

It will be remarked, first, that the time for flowering is not generally that which is recommended as the best for the collection of leaves and roots, the too aqueous juices of which have not yet been sufficiently elaborated. It follows, therefore, that the results obtained with the lily of the valley might vary when a plant collected in a more advanced stage is employed, a serious consideration in dealing with a rather energetic medicine. When it is added that the extracts alter, more or less profoundly, during their evaporation, it will be seen that in order to reckon upon the action of the lily of the valley, it will be necessary to look, not to the extract, but to the active principle.

*Journal de Pharmacie, [6], iii., 355; from the Bull. Gén. de Thérapeutique.

This active principle has been known for many years. Walz, in 1858, announced that the lily of the valley contained two glucosides, which he named "convallarin" and "convallamarin." In 1867, Marmé made some physiological experiments with these two bodies, and published his researches under the title, "Ueber Convallamarin, ein neues Herzgift." With convallarin, in doses of three to four grains, he obtained only a purgative effect; but he found that convallamarin acted principally upon the heart, and in a very small dose when injected into the circulatory system: 7 to 10 milligrammes for dogs weighing 7 to 14 kilograms; 3 to 8 milligrams for cats of 2 to 3 kilograms; 2 to 3 milligrams for rabbits of 1 to 1·2 kilograms, etc. He also determined the toxic doses to be a crural injection of 15 to 30 milligrams for dogs, 5 to 8 milligrams for rabbits, etc. Death followed usually a few minutes after the administration of these doses; happening by stoppage of the heart and nearly always accompanied by very intense clonic convulsions. He adds that there is no doubt that convallamarin is a heart poison, and that its physiological action approaches qualitatively and quantitatively that of digitalin, helleborin, the upas principles, etc.

Whilst convallarin is soluble in alcohol, but insoluble in water, convallamarin dissolves in water in all proportions, and is very soluble in ordinary alcohol and methylic alcohol. Convallamarin is insoluble in ether, chloroform and amylic alcohol, and is uncrystallizable. I have observed that it rotates the plane of polarization of light strongly to the left, and I have found its rotatory power in alcoholic solution to be $_{ab}$ ——55°. Pure convallamarin does not reduce Fehling's liquor until it has been boiled with dilute acid, when, according to Walz, it splits up into glucose and convallamaretin. Sulphuric acid dissolves it with a brown color; but if it be treated with this reagent after having been moistened [? with water], a beautiful violet color is developed which disappears upon the addition of water. Its taste is bitter, followed by a peculiar after-taste.

As the solvents of this glucoside are the same as those of the accompanying reduced sugar, it did not appear to me possible to obtain pure convallamarin—not reducing cupric solution—by the action alone of neutral liquids employed successively upon the plant or its extract. The process of Walz gives a satisfactory product, but as it is long and specially inconvenient, I have modified it in the following manner.

An alcoholic tincture made from the whole plant is precipitated with subacetate of lead and filtered, excess of lead is removed with dilute sulphuric acid, avoiding the use of more than is necessary, and after neutralizing, the tincture is distilled, the last portion of alcohol being driven off in the open air; then the cooled and filtered liquor is treated with tannin, care being taken to keep the liquid neutral by sparing additions of a dilute solution of carbonate of soda. A compound of tannin and convallamarin is precipitated, which, after washing, is dissolved in 60° alcohol, the solution decolorized with charcoal, decomposed with zinc oxide, filtered and evaporated to dryness. In this way convallamarin is obtained nearly white and having the appearance of ordinary digitalin. To free it from the salts that are sometimes carried down by the tannin precipitate it is a good plan to redissolve it in 90° alcohol, filter and then evaporate.

This treatment, applied to the lily of the valley collected in the first days of August in the present year, produced a yield of two grams of convallamarin per kilogram of the fresh plant.

With this process, the preparation of convallamarin will not present any serious difficulties; and if the lily of the valley should remain in the medical armamentarium, its active principle should be substituted for the plant by those who wish to protect themselves from the inconveniences presented by so unequal a distribution of convallamarin in the various parts, its variability according to the time of collection and its alteration in the extracts.

In order to verify this latter point I made the following experiment, based upon the loss of rotatory power which solutions of convallamarin undergo when the glucoside decomposes.

A pound of lily of the valley being taken, of which the strength in convallamarin was known, I commenced by estimating its acidity, which I represented in oxalic acid: then I dissolved 100 grams of water corresponding quantities of convallamarin and acid. This solution was evaporated in a water-bath to the consistence of an extract, then redissolved in water and examined polarmetrically. The rotatory power had diminished one-half;* one-half, therefore, of the active principle had been decomposed and was no longer present as such in the extract, which, however, had been prepared under the most favorable conditions, the quantity of liquid to evaporate having been very small.

It remains only to refer to an alkaloid which M. Stanislas Martin has stated that he found in the fresh flowers of the lily of the valley and which he named "maialine."† In any case this body would have nothing to do with the activity of the rest of the plant, for I have not been able to find it in the leaves, stems or roots.—C. Tanret, in *The Pharmaceutical Journal and Transactions*, Nov., 1882.

**Observations on a Cycas Indigenous to the Fiji Islands.**§—The periodical of the Pharmaceutic Society of Victoria has afforded me repeatedly opportunities for rendering known various plants of prominent interest and mostly of practical value; thus fully twenty years ago notes appeared on several cycadeous plants of the genus Encephalartos or Macrozamia; and more recently Encephalartos Moorei as well as Cycas Kennedyana became likewise described in numbers of the present serial. On this occasion I turn beyond Australia for giving special publicity to another member of the noble and ancient family of plants, namely the particular Pine-palm which inhabits the Fiji Group and perhaps other islands in the Pacific Ocean also. It is unnecessary to reiterate what has been said in these pages, concerning the interest which attaches to these kinds of plants, also for the purposes of pharmaceutic gentlemen; but it seems an apt opportunity to point out, how their professional brethren, who gradually settle in the South Sea Islands, might give us by local efforts that aid specially for advancing scientific enquiry, which to some slight extent we may expect collaterally from educated people in general. It was in this spirit that the enlightened Chief Secretary of the Fijian Government, the Hon. John Bates Thurston, C. M. G., procured various material for the furtherance of my studies, and among this recently the foliage and fruit of the Cycas or "Rora" of Fiji. Already in 1874, when revising the Australian species of this genus (fragm. phytogr. Austral. viii., 169–173) I expressed some doubt, whether the Fijian congener was correctly identified by the late and meritorious Dr. Seemann, he regarding it not distinct from the Indian Cycas circinalis (see Flora Vitiensis 268). Though the specimens, kindly placed at my disposal by Mr. Thurston, do not include the antheriferous amentum, which was not procurable at the time, yet the material now before us seems to indicate, that the Fiji-Cycas has real claims for specific distinction. Indeed the late Professor Alexander Braun gave, in 1876, to it a provisional name, but, so far as I am aware, from examination of the nuts mainly. I offer therefore a diagnosis now, and shall then proceed to explain the relation of this member to others of the same genus elsewhere.

*Cycas Seemanni.*—Al. Braun, Sitzungs Berichte der Gesellschaft naturforschender Freunde; Berlin, 7th October, 1876.

Stem tall; leafstalks biconvex, thornless smooth except at the thinly velvet-downy base, very hollow; segments of the leaves 50 to 70 on each side, thickly chartaceous in texture, comparatively broad, quite flat, somewhat decurrent, finely pointed but scarcely pungent, less shining beneath than above, glabrous on both sides, the lowest three to four times shorter than the middle segments; leaf-rhachis almost straight; stipes of female racheoles elongated, as well the latter and their apex all over densely velvet-downy; ovules six to eight; terminal plate almost cordate, anteriorly indented by narrow serratures, the slender and pungent summit shorter than the plate itself; nuts roundish or egg-shaped, lightly compressed, glabrous, shining; putamen biangular in its whole length, somewhat crested at the summit. Recorded from Viti-Levu and Ovalau already by Dr. Seemann, who noted the height, attained by this Cycas, to be 30 feet.

In contrasting with this the true Indian Cycas circinalis, it will be observed that the latter has thorny petioles, rather longer and somewhat narrower segments of the leaves, which moreover are of deeper green and more attenuated at the base, has the terminating plate of the female racheoles longer; besides, the antheriferous scales, when hereafter available for comparison, may also show differences. The width of the leaf-segments of the Fijian Cycas is more that of C. Rumphii; but again their color is not so dark green, nor are they very shining beneath; irrespective of this the leafstalks are not thorny, the plate of the female racheoles is three or four times shorter, thus very much less elongated towards the summit, though still broader towards the base, while the ovules are more approximated to each other, and are numbering 6 to 8, not 4 or even 2, as often the case with C. Rumphii. C. Papuana, described in December, 1876 (F. v. M., Papuan plants, 71), differs already in much smaller leaf-segments; the fruit-racheoles and their stipes are also more slender and not quite so velvety, but the form of the terminating plate is not dissimilar, and the petioles are thornless also; the nuts however are smaller. All the Australian species hitherto recorded (C. media, C. Normanbyana, C. Cairnsiana, C. Kennedyana) differ already in foliage much from the Fijian congener, but bear (except C. Cairnsiana) considerable resemblance to it, so far as the shape and size of the plate of the racheoles are concerned. According to solely ovuligerous racheoles, received many years ago from Mons. Pancher, the New Caledonian Cycas may be identical with that of Fiji; but I have seen neither foliage nor fruit, nor have I as yet any means for ascertaining whether the Cycas species, which occurs in the Tongan group, in New Britain and New Ireland, is peculiar to those islands. Mere nuts, gathered at Ugi in the Solomon-Islands, and obligingly forwarded to me by Edw. Ramsey, Esq., Director of the Sydney Museum, are not distinguishable from those of the oval form of C. Seemanni. No Cycas occurs in the Samoan Islands according to Mr. Betcke. Dr. Vieillard mentions the new Caledonian cycas simply as C. circinalis (Annales des Sciences Naturelles, quatrième série, XVI., 27). Dr. Ed. von Regel, when enumerating, in 1876, the then known cycadeæ (Acta Horti Botanici Petropolitani, IV., 278–320) did not refer specially to the Fiji Cycas. C. Seemanni presents two forms, of which one has the petioles dark colored, the leaf-segments more numerous and bent by a falcate curvature, the ovules eight in number, the nuts longer (attaining a length of 2½ inches even when dry) and of oval form, while the pericarp is singularly and unpleasantly scented, according to notes from the sender, a difference noticeable still in the dried state. This variety would perhaps represent the typical C. Seemanni; but I have from a former collection, fruits, showing the transit to the spherical form. Antheriferous scales of both forms need still comparison as well mutually as with distinct congeners elsewhere.—*The Chemist and Druggist.*

*I have ascertained that the glucoside derived from the breaking up of convallamarin is without action upon polarized light.

†Union Pharmaceutique, 1865.

§By Baron Von Mueller, K. C. M. G., M. & Ph. D., F. R. S., F. G. S., &c.

**Fluid Extract of Jaborandi for Typhoid Fever.**—Dr. A. L. Foreman, of Milton, Ill., in the June number, 1882, of the Medical Brief, states that he believes the fluid extract of jaborandi will abort an attack of typhoid fever. For the past six months his community has suffered from an epidemic of this fearful disease—many cases proving fatal. The average duration of the cases has been over thirty days. Last December he lost his first case on account of intestinal hæmorrhage. Since then, he has succeeded in every instance to which he has been summoned in time—some ten or more—in cutting short the disease by the use of fluid extract of jaborandi. He uses this medicine in half-drachm doses, given in a little hot water, every half hour, until four doses are taken. In the meantime, allow a little hot coffee to prevent sick stomach. Allow no cold drink. This treatment brings about a copious diaphoresis. In from four to six hours, he begins to give from two to four grains of quinia sulphate every three or four hours, and then he uses fluid extract of jaborandi, mid-hour between the administration of quinine. With the jaborandi he gives fluid extract of aconite and water, as in the following prescription:

℞ Fluid extract jaborandi, ʒ j
Fluid extract aconite, gtt. x
Water, q. s. ad ℥ jv.

M. S. A teaspoonful [as above stated—every four hours—between the doses of quinia.]

All solid food should be prohibited; but let the patient take four ounces of warm, fresh milk every three hours. Under this treatment, if the cases are seen in the first days of the attack, he has been able to discharge them as cured in from three to seven days.

[The editor of the Medical Monthly has several times used this plan of treatment, having begun it some three or more years ago, and has had encouraging results. But in some cases in which he has used this agent against supposed attacks of typhoid fever, he has doubted the correctness of his diagnosis, and solely because the cases have got well so readily. In one case of typhoid fever in which jaborandi was not used, his patient died. It may be skepticism that leads us to doubt our diagnosis in the several cases of beginning typhoid fever, that have recovered so rapidly; but with the single exception of the fatal case referred to of true typhoid fever, in which a competent consultant was in attendance and confirmed the diagnosis, we have not had a death from this disease since we began the use of jaborandi. Such a fact is suggestive. We do not undertake to assert, so positively as Dr. Foreman, a special confidence in the value of jaborandi. Still our experience has been sufficiently encouraging to lead us to use the medicine in cases of continued fever, of which there was no other practicable diagnosis, provided they are seen in their commencement. Like most general practitioners, we have kept no notes of our ordinary run of cases.

We frequently regret not having done so; and this common regret of many physicians in large practice should serve as an advice to those who are entering upon the duties of the profession, to adopt some method by which they can preserve notes of every case they attend.

But returning to the matter of using jaborandi in typhoid or continued fever, during the first week of its invasion, we would recommend its further trial. If the results are favorable or otherwise, we would be glad to have exact reports from any of our readers. Our best way of arriving at satisfactory conclusions in regard to the management of diseases is to record our facts, and request their criticism—whether favorable or denunciatory. Let truth prevail.]—*Va. Med. Monthly.*

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**Properties of Nitro-Glycerine.**—It has a sweet, aromatic, pungent taste, and possesses the very peculiar property of causing an extremely violent headache when placed in a small quantity upon the tongue, or any other portion of the skin, particularly the wrist. It has long been employed by homœopathic practitioners as a remedy in certain kinds of headaches. In those who work much with it, the tendency to headache is generally overcome, though not always. It freezes at about 40° Fahr., becoming a white half-crystallized mass, which must be melted by the application of water at a temperature of 100° Fahr. If perfectly pure—that is, if the washing has been so complete as to remove all traces of the acid—it can be kept for an indefinite period of time; and, while many cases of spontaneous combustion have occurred in impure specimens, there has never been known such an instance, where the proper care has been given to all the details of the manufacture.

When pure, nitro-glycerine is not very sensitive to friction, or even to moderate percussion; if a small quantity be placed on an anvil and struck with a hammer, that portion which is touched explodes sharply, but so quickly as to drive away the other particles; if, however, it were even slightly confined, so that none could escape, it would all explode or detonate. It must be fired by a fuse containing fulminate of mercury (the compound used in percussion caps), not being either readily or certainly fired by gunpowder, the shock of the latter not being sufficiently quick or sharp to detonate the nitro-glycerine. It is highly probable that in this case, as in that of other high explosives, the vibrations set up by the fulminate (which is not stronger than gunpowder) are of just such a character to find an answering chord, so to speak, in the explosive, so that the desired effect is produced. This would seem to be a correct theory, for it is not always the most powerful explosive which most readily causes the explosion of another body. For instance, although nitro-glycerine is much more powerful than fulminate of mercury, yet seventy grains of it will not explode gun-cotton, while fifteen grains of the weaker fulminate will readily do so. The fuse generally used, then, for firing nitro-glycerine, is composed of from fifteen to twenty-five grains of fulminate, and this quantity is sufficient to detonate a large mass as well as a small one.

If flame be applied to nitro-glycerine it will not explode, but burn with comparative sluggishness. When frozen it is very difficult and uncertain of firing. If the material be perfectly pure it forms, upon detonation, a volume of gases nearly thirteen hundred times as great as that of the original liquid; these gases are also further expanded, by the heat developed, to a theoretical (though not practical) volume ten thousand times as great as that of the charge. Practically speaking, the forces exerted by gunpowder and nitro-glycerine are in the same proportion of one to eight.—From "Explosions and Explosives," by Allen D. Brown, in *Popular Science Monthly.*

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**Adonis Vernalis.**—The Adonis vernalis has been used in some forms of heart disease, and its constituents have been recently studied by Dr. Cervello, who has obtained from it only one active substance, a glucoside, which he has named "adonidin." Only a small quantity was obtained from two kilogrammes of the plant The substance is extremely energetic, and seems to be contained in small proportion. It is non-nitrogenous, colorless, odorless, amorphous, and extremely bitter, soluble in alcohol, but only slightly soluble in ether and water. It is precipitated by tannic acid, the precipitate redissolving in much water. It is insoluble in cold dilute hydrochloric acid, but on being heated it splits up into sugar and a substance insoluble in ether. Adonis vernalis is said to have an action similar to digitalis, but not to be cumulative in its action, so that it can be safely given for a considerable time without danger. The action of adonidin seems to be identical with that of digitalin. Cervello's researches have been published in the *Archiv f. Exp. Path. u Pharmakologie.*—*Lancet*, Nov. 25, 1882.